DICTIONARY FILE UPDATES: 29 SEP 2005 HIGHEST RN 864227-43-0

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2005

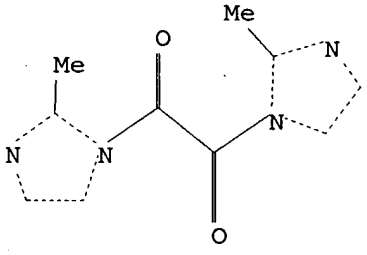
Please note that search-term pricing does apply when conducting SmartSELECT searches.

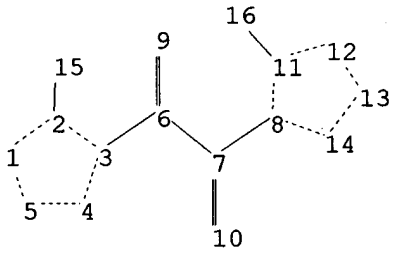
```
**********************************************************************
*                                                                    *
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added,   *
* effective March 20, 2005.  A new display format, IDERL, is now    *
* available and contains the CA role and document type information. *
*                                                                    *
**********************************************************************
```

Structure search iteration limits have been increased. See HELP SLIMITS for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

=>
Uploading C:\Program Files\Stnexp\Queries\10705586.str





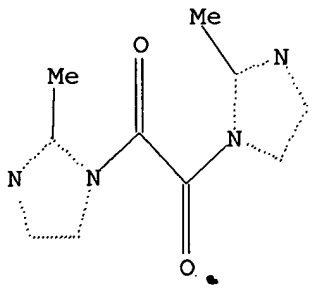
chain nodes :
6 7 9 10 15 16
ring nodes :
1 2 3 4 5 8 11 12 13 14
chain bonds :
2-15 3-6 6-7 6-9 7-8 7-10 11-16
ring bonds :
1-2 1-5 2-3 3-4 4-5 8-11 8-14 11-12 12-13 13-14
exact/norm bonds :
1-2 1-5 2-3 3-4 3-6 4-5 6-9 7-8 7-10 8-11 8-14 11-12 12-13 13-14
exact bonds :
2-15 6-7 11-16

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:CLASS 7:CLASS 8:Atom 9:CLASS 10:CLASS 11:Atom 12:Atom 13:Atom 14:Atom 15:CLASS 16:CLASS

L1 STRUCTURE UPLOADED

=> d
L1 HAS NO ANSWERS

L1 STR



Structure attributes must be viewed using STN Express query preparation.

=> s l1
SAMPLE SEARCH INITIATED 12:14:53 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 0 TO ITERATE

100.0% PROCESSED 0 ITERATIONS 0 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 0 TO 0
PROJECTED ANSWERS: 0 TO 0

L2 0 SEA SSS SAM L1

=> s l1 full
FULL SEARCH INITIATED 12:14:59 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 30 TO ITERATE

100.0% PROCESSED 30 ITERATIONS 4 ANSWERS
SEARCH TIME: 00.00.01

L3 4 SEA SSS FUL L1

=> file caplus
COST IN U.S. DOLLARS SINCE FILE ENTRY TOTAL SESSION
FULL ESTIMATED COST 161.33 161.54

FILE 'CAPLUS' ENTERED AT 12:15:01 ON 30 SEP 2005
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

FILE COVERS 1907 - 30 Sep 2005 VOL 143 ISS 15
FILE LAST UPDATED: 29 Sep 2005 (20050929/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

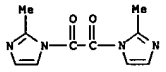
=> s l3
L4 3 L3

=> d ibib abs hitstr tot

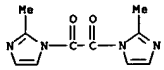
L4 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:589134 CAPLUS
DOCUMENT NUMBER: 141:116131
TITLE: Peroxyoxalate chemiluminescence compound and system
INVENTOR(S): Lee, Ji Hoon; Schlautman, Mark A.; Carraway, Elizabeth R.
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 5 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004142358	A1	20040722	US 2003-705586	20031110
PRIORITY APPLN. INFO.:			US 2002-425432P P	20021112

AB An unstable, Me-substituted (1,1'-oxalyl di-imidazole) mol. capable of accelerating the rate at which a material attains maximum chemiluminescence when reacted hydrogen peroxide in the presence of a fluorophore and a method to synthesize such mols.
IT 505093-69-6P
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(fast peroxyoxalate chemiluminescence compound and system)
RN 505093-69-6 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis[2-methyl- (9CI) (CA INDEX NAME)

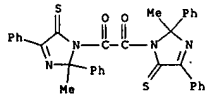


L4 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:22228 CAPLUS
DOCUMENT NUMBER: 138:296792
TITLE: Fast peroxyoxalate chemiluminescence for minimized analytical separation systems
AUTHOR(S): Lee, Ji Hoon; Je, Jongtae; Schlautman, Mark A.; Carraway, Elizabeth R.
CORPORATE SOURCE: Department of Environmental Toxicology and the Clemson Institute of Environmental Toxicology, Clemson University, Pendleton, SC, 29670, USA
SOURCE: Chemical Communications (Cambridge, United Kingdom) (2003), (2), 270-271
CODEN: CHCOFS; ISSN: 1359-7345
PUBLISHER: Royal Society of Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The maximum intensity, Imax, and time required to reach the maximum emission, tmax, for 1-aminopyrene monitored in 1,1'-oxalyldi-4-methylimidazole (OD4MI) chemiluminescence (CL) reactions are .apprx.61 times higher and 16 times faster than their resp. values for bis(2,4,6-trichlorophenyl)oxalate (TCPO) CL reactions in the presence of imidazole (ImH).
IT 505093-69-6
RL: ARG (Analytical reagent use); PRP (Properties); ANST (Analytical study); USES (Uses)
(fast peroxyoxalate chemiluminescence for minimized anal. separation systems)
RN 505093-69-6 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis[2-methyl- (9CI) (CA INDEX NAME)

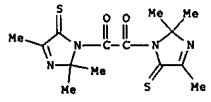


REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1976:74181 CAPLUS
DOCUMENT NUMBER: 84:74181
TITLE: Joint action of elemental sulfur and gaseous ammonia upon ketones. 88. Substitution products of 2H-imidazole-4(3H)-thiones and 2H-imidazol-4(3H)-ones
AUTHOR(S): Asinger, Friedrich; Saus, Alfons; Fichtner, E.; Graeber, H. J.; Leuchtenberger, W.
CORPORATE SOURCE: Inst. Tech. Chem. Petrolechem., Rheinisch-Westfael. Tech. Hochsch., Aachen, Fed. Rep. Ger.
SOURCE: Monatshefte fuer Chemie (1975), 106(6), 1449-60
CODEN: MOCMB7; ISSN: 0026-9247
DOCUMENT TYPE: Journal
LANGUAGE: German
OTHER SOURCE(S): CASREACT 84:74181
GI For diagram(s), see printed CA Issue.
AB Na salts of 2H-imidazole-4(3H)-thiones [I; R, R1, R2 = Ph, Me, CMe3, or R1R2 = (CH2)5, R3 = H] reacted with alkyl and aryl carboxylic acid chlorides to give the corresponding 3-acyl-2H-imidazole-4(3H)-thiones (I, R3 = Bz, Ac, COEt, COPr, cyclopropylcarbonyl, etc.), with dicarboxylic acid dichlorides the N,N'-diacylbis-3-imidazoline-5-thiones II [X = (CH2)4, (CH2)8, etc.] were obtained, whereas with carbamic acid chlorides and chloroformic acid esters the corresponding ureas (I, R3 = CONMe2, CONEt2, etc.) and urethane derivs. [I, R3 = CO2Bu, CO2(CH2)4CHMeEt] were formed. Analogously 2H-imidazol-4(3H)-ones reacted with acid chlorides to the corresponding 3-acyl-2-imidazol-4(3H)-ones.
IT 58488-90-7P 58488-94-1P 58488-95-2P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 58488-90-7 CAPLUS
CN 4H-Imidazole-4-thione, 3,3'-(1,2-dioxo-1,2-ethanediyl)bis[2,3-dihydro-2-methyl-2,5-diphenyl- (9CI) (CA INDEX NAME)

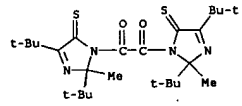


RN 58488-94-1 CAPLUS
CN 4H-Imidazole-4-thione, 3,3'-(1,2-dioxo-1,2-ethanediyl)bis[2,3-dihydro-2,2,5-trimethyl- (9CI) (CA INDEX NAME)



RN 58488-95-2 CAPLUS
CN 4H-Imidazole-4-thione, 3,3'-(1,2-dioxo-1,2-ethanediyl)bis[2,5-bis(1,1-dimethylethyl)-2,3-dihydro-2-methyl- (9CI) (CA INDEX NAME)

L4 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)



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=> file reg
COST IN U.S. DOLLARS                            SINCE FILE      TOTAL
                                                   ENTRY    SESSION
FULL ESTIMATED COST                                15.27     176.81

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)      SINCE FILE      TOTAL
                                                   ENTRY    SESSION
CA SUBSCRIBER PRICE                                -2.19      -2.19

FILE 'REGISTRY' ENTERED AT 12:15:13 ON 30 SEP 2005
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
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provided by InfoChem.

STRUCTURE FILE UPDATES:   29 SEP 2005  HIGHEST RN 864227-43-0
DICTIONARY FILE UPDATES:  29 SEP 2005  HIGHEST RN 864227-43-0

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2005

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

*********************************************************************
*                                                                   *
* The CA roles and document type information have been removed from *
```

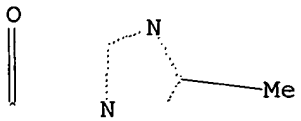
ring nodes :
1 2 3 4 5 8 11 12 13 14
chain bonds :
3-6 5-16 6-7 6-9 7-8 7-10 13-15
ring bonds :
1-2 1-5 2-3 3-4 4-5 8-11 8-14 11-12 12-13 13-14
exact/norm bonds :
1-2 1-5 2-3 3-4 3-6 4-5 6-9 7-8 7-10 8-11 8-14 11-12 12-13 13-14
exact bonds :
5-16 6-7 13-15

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:CLASS 7:CLASS 8:Atom 9:CLASS 10:CLASS
11:Atom 12:Atom 13:Atom 14:Atom 15:CLASS 16:CLASS

L5 STRUCTURE UPLOADED

=> d

L5 HAS NO ANSWERS
L5 STR



100.0% PROCESSED 771 ITERATIONS 2 ANSWERS
SEARCH TIME: 00.00.01

L7 2 SEA SSS FUL L5

=> file caplus

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	161.33	338.14

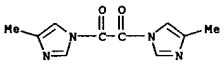
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-2.19

FILE 'CAPLUS' ENTERED AT 12:16:01 ON 30 SEP 2005
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

L8 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:823852 CAPLUS
DOCUMENT NUMBER: 140:388065
TITLE: Solvent and pH effects on fast and ultrasensitive 1,1'-oxalyldi(4-methyl)imidazole chemiluminescence
AUTHOR(S): Lee, Ji Hoon; Je, Jongtae; Hur, Jin; Schlautman, Mark A.; Carraway, Elizabeth R.
CORPORATE SOURCE: Clemson Institute of Environmental Toxicology, Clemson University, Pendleton, SC, 29670, USA
SOURCE: Analyst (Cambridge, United Kingdom) (2003), 128(10), 1257-1261
CODEN: ANALAO; ISSN: 0003-2654
PUBLISHER: Royal Society of Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Solvent and pH effects on fast and ultrasensitive 1,1'-oxalyldi(4-methyl)imidazole chemiluminescence (OD4MI-CL) were studied. The influences of these two factors on the complex OD4MI-CL reaction are discussed within a conceptual prototype for developing aqueous and non-aqueous capillary electrophoresis (ACE and NACE) devices with OD4MI-CL detection. The reaction channel length and OD4MI yield from the reaction between bis(2,4,6-trichlorophenyl) oxalate (TCPO) and 4-methylimidazole in the channel will be influenced by pH, water volume fraction, and cosolvent properties of the solution Optimum OD4MI-CL efficiency is observed at pH 6.5 when 1-propanol, which has a low dielec. constant (ε = 20.8), is used as the NACE solvent in the separation channel. Water (ε = 80.1), the solvent in the ACE separation channel, acts similarly to a high dielec. constant organic solvent in NACE because the disadvantages normally associated with TCPO-CL reactions in water disappear due to the faster OD4MI-CL reaction vs. OD4MI decomposition in aqueous solution Therefore, it is expected that the OD4MI-CL detection system can be used in both NACE and ACE devices without requiring detector modifications. We also conclude that OD4MI-CL detection in NACE and ACE devices will be much more sensitive than the TCPO-CL detection used in current NACE devices.

IT **685880-49-3**
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses) (solvent and pH effects on fast and ultrasensitive 1,1'-oxalyldi(4-methyl)imidazole chemiluminescence)
RN 685880-49-3 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis[4-methyl- (9CI) (CA INDEX NAME)

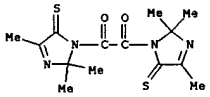


REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1976:74181 CAPLUS
DOCUMENT NUMBER: 84:74181
TITLE: Joint action of elemental sulfur and gaseous ammonia upon ketones. 88. Substitution products of 2H-imidazole-4(3H)-thiones and 2H-imidazol-4(3H)-ones
AUTHOR(S): Asinger, Friedrich; Saus, Alfons; Fichtner, E.; Graeber, H. J.; Leuchtenberger, W.
CORPORATE SOURCE: Inst. Tech. Chem. Petrolechem., Rheinisch-Westfael. Tech. Hochsch., Aachen, Fed. Rep. Ger.
SOURCE: Monatshefte fuer Chemie (1975), 106(6), 1449-60
CODEN: MOCMB7; ISSN: 0026-9247
DOCUMENT TYPE: Journal
LANGUAGE: German
OTHER SOURCE(S): CASREACT 84:74181
GI For diagram(s), see printed CA Issue.

AB Na salts of 2H-imidazole-4(3H)-thiones [I; R, R1, R2 = Ph, Me, CMe3, or R1R2 = (CH2)5, R3 = H] reacted with alkyl and aryl carboxylic acid chlorides to give the corresponding 3-acyl-2H-imidazole-4(3H)-thiones (I, R3 = Bz, Ac, COEt, COPr, cyclopropylcarbonyl, etc.), with dicarboxylic acid dichlorides the N,N'-diacylbis-3-imidazoline-5-thiones II [X = (CH2)4, (CH2)8, etc.] were obtained, whereas with carbamic acid chlorides and chloroformic acid esters the corresponding ureas (I, R3 = CONMe2, CONEt2, etc.) and urethane derivs. [I, R3 = CO2Bu, CO2(CH2)4CHMeEt] were formed. Analogously 2H-imidazol-4(3H)-ones reacted with acid chlorides to the corresponding 3-acyl-2-imidazol-4(3H)-ones.

IT **58488-94-1P**
RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of)
RN 58488-94-1 CAPLUS
CN 4H-Imidazole-4-thione, 3,3'-(1,2-dioxo-1,2-ethanediyl)bis[2,3-dihydro-2,2,5-trimethyl- (9CI) (CA INDEX NAME)



```
=> file reg
COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                           ENTRY    SESSION
FULL ESTIMATED COST                                        10.33     348.47

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)              SINCE FILE      TOTAL
                                                           ENTRY    SESSION
CA SUBSCRIBER PRICE                                        -1.46      -3.65

FILE 'REGISTRY' ENTERED AT 12:16:11 ON 30 SEP 2005
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
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provided by InfoChem.

STRUCTURE FILE UPDATES:   29 SEP 2005  HIGHEST RN 864227-43-0
DICTIONARY FILE UPDATES:  29 SEP 2005  HIGHEST RN 864227-43-0

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2005

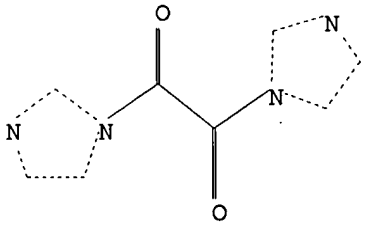
  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

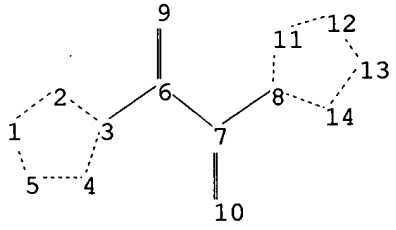
**********************************************************************
*                                                                    *
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added,   *
* effective March 20, 2005.  A new display format, IDERL, is now    *
* available and contains the CA role and document type information. *
*                                                                    *
**********************************************************************

Structure search iteration limits have been increased.  See HELP SLIMITS
for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

=>
Uploading C:\Program Files\Stnexp\Queries\10705586c.str
```





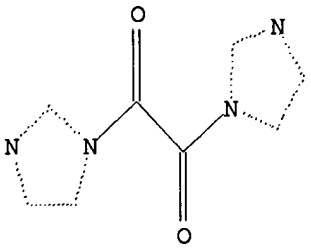

```
chain nodes :
6  7  9  10
ring nodes :
1  2  3  4  5  8  11  12  13  14
```

chain bonds :
3-6 6-7 6-9 7-8 7-10
ring bonds :
1-2 1-5 2-3 3-4 4-5 8-11 8-14 11-12 12-13 13-14
exact/norm bonds :
1-2 1-5 2-3 3-4 3-6 4-5 6-9 7-8 7-10 8-11 8-14 11-12 12-13 13-14
exact bonds :
6-7

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:CLASS 7:CLASS 8:Atom 9:CLASS 10:CLASS
11:Atom 12:Atom 13:Atom 14:Atom

L9 STRUCTURE UPLOADED

=> d
L9 HAS NO ANSWERS
L9 STR



Structure attributes must be viewed using STN Express query preparation.

=> s l9
SAMPLE SEARCH INITIATED 12:16:50 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 9 TO ITERATE

100.0% PROCESSED 9 ITERATIONS 0 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 9 TO 360
PROJECTED ANSWERS: 0 TO 0

L10 0 SEA SSS SAM L9

=> s l9 full
FULL SEARCH INITIATED 12:16:53 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 192 TO ITERATE

100.0% PROCESSED 192 ITERATIONS 14 ANSWERS
SEARCH TIME: 00.00.01

L11 14 SEA SSS FUL L9

```
=> file caplus
COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                           ENTRY    SESSION
FULL ESTIMATED COST                                       161.33     509.80

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)              SINCE FILE      TOTAL
                                                           ENTRY    SESSION
CA SUBSCRIBER PRICE                                         0.00      -3.65

FILE 'CAPLUS' ENTERED AT 12:16:58 ON 30 SEP 2005
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2005 AMERICAN CHEMICAL SOCIETY (ACS)
```



```
FILE COVERS 1907 - 30 Sep 2005  VOL 143 ISS 15
FILE LAST UPDATED: 29 Sep 2005  (20050929/ED)

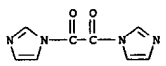
New CAS Information Use Policies, enter HELP USAGETERMS for details.

  This file contains CAS Registry Numbers for easy and accurate
  substance identification.

=> s l11
L12          55 L11

=> d ibib abs hitstr tot
THE ESTIMATED COST FOR THIS REQUEST IS 271.70 U.S. DOLLARS
DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N:y
```

L12 ANSWER 1 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:417414 CAPLUS
Correction of: 2005:195474
Correction of: 142:260983
TITLE: Product class 4: 1,2-diketones and related compounds
AUTHOR(S): Landais, Y.; Vincent, J. M.
CORPORATE SOURCE: Laboratoire de Chimie Organique et Organometallique, UMR 5802, Talence, F-33405, Fr.
SOURCE: Science of Synthesis (2005), Volume Date 2004, 26, 647-743
CODEN: SSCYJ9
PUBLISHER: Georg Thieme Verlag
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English
AB A review of the preparation of 1,2-diketones, α-thioxo, α-selenoxo, α-imino, α-hydroxy, α-hydrazono and α-diazo ketones as well as applications to organic synthesis.
IT INDEXING IN PROGRESS
IT **18637-83-7**
RL: RCT (Reactant); RACT (Reactant or reagent)
(review preparation and application of 1,2-diketones and related derivs.)
RN 18637-83-7 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)



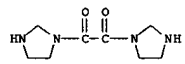
L12 ANSWER 2 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:395072 CAPLUS
DOCUMENT NUMBER: 142:443782
TITLE: Use of effectors of glutaminyl and glutamate cyclases for therapy
INVENTOR(S): Schilling, Stephan; Hoffmann, Torsten; Niestroj, Andre Johannes; Demuth, Hans-Ulrich; Heiser, Ulrich
PATENT ASSIGNEE(S): Probiodrug Ag, Germany
SOURCE: PCT Int. Appl., 105 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 5
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005039548	A2	20050506	WO 2004-EP11630	20041015
WO 2005039548	A3	20050630		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2003-512038P P 20031015
OTHER SOURCE(S): MARPAT 142:443782
AB The present invention provides novel physiol. substrates of mammalian glutaminyl cyclase (QC, EC 2.3.2.5), new effectors of QC and the use of such effectors and pharmaceutical compns. comprising such effectors for the treatment of diseases that can be treated by modulation of QC-activity, e.g. diseases selected from the group consisting of duodenal cancer with or w/o Helicobacter pylori infections, colorectal cancer, Zolliger-Ellison syndrome, Familial British Dementia and Familial Danish Dementia. Glutaminyl cyclase (QC, EC 2.3.2.5) catalyzes the intramol. cyclization of N-terminal glutamine residues into pyroglutamic acid (pGlu*) liberating ammonia. The present invention provides novel physiol. substrates of QC in mammals, selected from the group consisting of Glu1-ABri, Glu1-ADan, Gln3-Aβ(3-40/42), and Gln1-Gastrins (17 and 34). It was shown by inhibition studies that human QC is a metal-dependent transferase. QC apoenzyme could be reactivated most efficiently by zinc ions, and the metal-binding motif of zinc-dependent aminopeptidases is also present in human QC. Compds. interacting with the active-site bound metal are potent inhibitors of QC. Unexpectedly, it was shown that recombinant human QC as well as QC-activity from brain exts. catalyze both, the N-terminal glutaminyl as well as glutamate cyclization. Most striking is the finding, that cyclase-catalyzed Glu1-conversion is favored around pH 6.0 while Gln1-conversion to pGlu-derivs. occurs with a pH-optimum of around 8.0. Since the formation of pGlu-Aβ-related peptides can therefore be suppressed by inhibition of recombinant human QC and QC-activity from pig pituitary exts., the enzyme QC is, according to the present invention, a target in drug development for treatment of Alzheimer's disease. The present invention provides QC-inhibitors which can be described generally by the formula (I, SHC(R5)(R6)(CH2)nC(R4)(R3)N(R2)R1) or the pharmaceutically acceptable salts thereof, including all stereoisomers: formula (I) wherein R'-R6 are

L12 ANSWER 2 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)
independently H or a branched or unbranched alkyl chain, a branched or unbranched alkenyl chain, a branched or unbranched alkynyl chain, carbocyclic, aryl, heteroaryl, heterocyclic, aza-amino acid, amino acid or a mimetic thereof, peptide or a mimetic thereof; all of the above residues optionally being substituted, and n can be 0-2. The present invention also provides a new method for the treatment of Alzheimer's disease and Down Syndrome. The N-termini of amyloid-β-peptides deposited in Alzheimer's disease and Down syndrome brain bear pyroglutamic acid. The pGlu formation is an important event in the development and progression in the disease, since the modified amyloid β-peptides show an enhanced tendency to β-amyloid aggregation and toxicity, likely worsening the onset and progression of the disease. In contrast, in the natural Aβ-peptides (3-40/42), glutamic acid is present as an N-terminal amino acid. An enzymic conversion of Glu to pGlu was not known to date. This aspect was addressed by the synthesis of Aβ(3-11)a and Aβ(1-11)a, contg. the amino acid glutamine instead of glutamic acid at position three, the detn. of the substrate characteristics of these modified amyloid β-peptides against QC, DP IV and DP IV-like enzymes and aminopeptidases and the use of inhibitors of QC to prevent the formation of pGlu from a N-terminal glutaminyl residue of the amyloid p-derived peptides (1-11) and (3-11).
IT **851308-97-9**, Oxalic acid diimidazolidide
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(human QC inhibition by; use of effectors of glutaminyl and glutamate cyclases for therapy)
RN 851308-97-9 CAPLUS
CN Imidazolidine, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)



L12 ANSWER 3 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:283338 CAPLUS
DOCUMENT NUMBER: 142:336179
TITLE: Preparation of cephem compounds as antimicrobials for the treatment of infectious disease
INVENTOR(S): Yamanaka, Toshio; Murano, Kenji; Toda, Ayako; Ohki, Hidenori; Oogaki, Masaru; Okuda, Shinya; Kawabata, Kohji; Inoue, Satoshi; Misumi, Keiji; Itoh, Kenji; Sato, Kenji
PATENT ASSIGNEE(S): Fujisawa Pharmaceutical Co., Ltd., Japan; Wakunaga Pharmaceutical Co., Ltd.
SOURCE: PCT Int. Appl., 108 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005027909	A1	20050331	WO 2004-JP14018	20040917

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

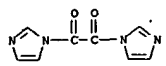
US 2005096306	A1	20050505	US 2004-942916	20040917

PRIORITY APPLN. INFO.: AU 2003-905084 A 20030918
OTHER SOURCE(S): MARPAT 142:336179
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The present invention relates to I (R1 = lower alkyl or hydroxy (lower) alkyl, and R2 = hydrogen or amino protecting group, or R1 and R2 are bonded together and form lower alkylene ; R3 = substituted amine, amide, etc; R4 = carboxy or protected carboxy; and R5 = amino or protected amino) as potential antibacterial agents. Thus, II in N, N-dimethylformamide was treated with 1,3-bis(trimethylsilyl)urea, KI, and a protected pyrazole to give a crude solid which was treated with anisole and trifluoroacetic to give III.
IT **18637-83-7**, 1,1'-Oxalyldiimidazole
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of cephem β-lactams antibiotics as antimicrobial agents for the treatment of infectious disease)
RN 18637-83-7 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)

L12 ANSWER 3 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)



REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

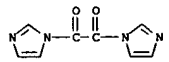
L12 ANSWER 4 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:97335 CAPLUS
DOCUMENT NUMBER: 142:113766
TITLE: Catecholic Flavonoids Acting as Telomerase Inhibitors
AUTHOR(S): Menichincheri, Maria; Ballinari, Dario; Bargiotti, Alberto; Bonomini, Luisella; Ceccarelli, Walter; D'Alessio, Roberto; Fretta, Antonella; Moll, Juergen; Polucci, Paolo; Soncini, Chiara; Tibolla, Marcellino; Trosset, Jean-Yves; Vanotti, Ermes
CORPORATE SOURCE: Department of Chemistry, BU-Nerviano Medical Sciences, Nerviano (MI), 20014, Italy
SOURCE: Journal of Medicinal Chemistry (2004), 47(26), 6466-6475
CODEN: JMCMAR; ISSN: 0022-2623
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 142:113766

AB In recent years telomerase has been identified as a new promising target in oncol. and consequently new telomerase inhibitors have been intensely explored as anticancer agents. Focused screening of several polyhydroxylated flavonoids has allowed us to identify 7,8,3',4'-tetrahydroxyflavone as a new telomerase inhibitor with an interesting in vitro activity in a Flash-Plate assay (IC50 = 0.2 μM) that has been confirmed in the classical TRAP assay. Starting from this compound, we developed a medicinal chemical program to optimize our lead, and in particular to replace one of the two catechols with potential bioisosteres. From this study, new structural analogs characterized by submicromolar potencies have been obtained. Their synthesis and biol. activity are described.

IT 18637-83-7, 1,1'-Oxalyldiimidazole
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of catecholic flavonoids as telomerase inhibitors)

RN 18637-83-7 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

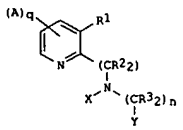
L12 ANSWER 5 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:878165 CAPLUS
DOCUMENT NUMBER: 141:379809
TITLE: Preparation of pyridine derivatives as CXCR4 chemokine receptor binding compounds
INVENTOR(S): Bridger, Gary; McEachern, Ernest J.; Skerlj, Renato; Schols, Dominique
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 211 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004209921	A1	20041021	US 2004-823494	20040412
WO 2004091518	A2	20041028	WO 2004-US11328	20040412
WO 2004091518	A3	20041223		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2003-462736P P 20030411
US 2003-505688P P 20030923
OTHER SOURCE(S): MARPAT 141:379809
GI



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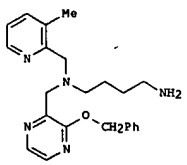


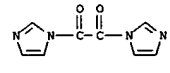
II

L12 ANSWER 5 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

AB Title compds. I [X = (CR32)o-(CR3=CR3)p-(CR32)r-NR52, (CR32)s-R4, (un)substituted mono or bicyclic ring optionally containing N, O or S, etc.; Y = (un)substituted N-containing monocyclic or bicyclic aromatic or partially aromatic moiety; A and R1 = non-interfering substituent provided that two As do not form a ring; R2 and R3 = H or (un)substituted alkyl; R4 = (un)substituted heterocycle or a hetero compound; R5 = H or alkyl; wherein R1 and R2 is not H; and wherein R1 and R2 may be connected to form an addnl. ring if Y does not contain a 2-imidazoyl residue optionally connected to an addnl. ring; q and n independently = 0-4; p = 0-1; o and r independently = 1-4; s = 1-6 provided that if X = (CR3)2-R4, r is at least two if R4 = 2-pyridinyl, quinolinyl, imidazolyl or furan), as well as their pharmaceutically acceptable salts, are prepared and disclosed as having the ability to bind to chemokine receptors, in particular CXCR4. Thus, e.g., II was prepared by reductive amination of (4-[(3-methylpyridin-2-ylmethyl)-amino]-butyl)carbamic acid tert-Bu ester (preparation given) with 3-benzyloxypyrazine-2-carbaldehyde. The present invention also relates to methods of using such compds., such as in treating HIV infection and inflammatory conditions such as rheumatoid arthritis. In assays to evaluate inhibition of HIV-1, many compds. of the invention exhibited IC50 values in the range of 0.5nM-5μM. Furthermore, the present invention relates to methods to elevate progenitor and stem cell counts, as well as methods to elevate white blood cell counts, using such compds.

IT 18637-83-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(starting material; preparation of pyridine derivs. as CXCR4 chemokine receptor binding compds.)

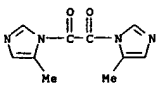
RN 18637-83-7 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)



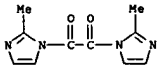
L12 ANSWER 6 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:589134 CAPLUS
DOCUMENT NUMBER: 141:116131
TITLE: Peroxyoxalate chemiluminescence compound and system
INVENTOR(S): Lee, Ji Hoon; Schlautman, Mark A.; Carraway, Elizabeth R.
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 5 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004142358	A1	20040722	US 2003-705586	20031110
PRIORITY APPLN. INFO.:			US 2002-425432P P	20021112

AB An unstable, Me-substituted (1,1'-oxalyl di-imidazole) mol. capable of accelerating the rate at which a material attains maximum chemiluminescence when reacted hydrogen peroxide in the presence of a fluorophore and a method to synthesize such mols.
IT 505093-68-5P 505093-69-6P
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(fast peroxyoxalate chemiluminescence compound and system)
RN 505093-68-5 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis[5-methyl- (9CI) (CA INDEX NAME)

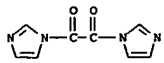


RN 505093-69-6 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis[2-methyl- (9CI) (CA INDEX NAME)



IT 18637-83-7, 1,1'-Oxalyldiimidazole
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(fast peroxyoxalate chemiluminescence compound and system)
RN 18637-83-7 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)

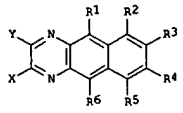
L12 ANSWER 6 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)



L12 ANSWER 7 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:428917 CAPLUS
DOCUMENT NUMBER: 140:431154
TITLE: Quinoxaline derivative used in organic semiconductor electroluminescent device
INVENTOR(S): Shitagaki, Satoko; Yamazaki, Hiroko; Seo, Satoshi
PATENT ASSIGNEE(S): Semiconductor Energy Laboratory Co., Ltd., Japan
SOURCE: PCT Int. Appl., 72 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004043937	A1	20040527	WO 2003-JP13764	20031028
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2005003232	A1	20050106	US 2003-706291	20031113
PRIORITY APPLN. INFO.:			JP 2002-329251 A	20021113
OTHER SOURCE(S):	MARPAT 140:431154			

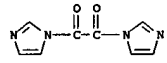
GI



I

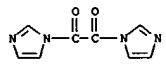
AB The invention relates to a quinoxaline derivative that has excellent electron
transporting capability and hole blocking properties and can be formed into a film without crystallization In particular, the invention provides a quinoxaline derivative represented by I [X and Y = aryl and heterocyclic residues; R1-6 = H, alkyl, alkoxyl, aryl and heterocyclic], suited for use in making an electroluminescent device.
IT 18637-83-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(quinoxaline derivative used in organic semiconductor electroluminescent device)
RN 18637-83-7 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)

L12 ANSWER 7 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)



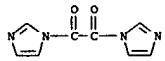
REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 8 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:346279 CAPLUS
DOCUMENT NUMBER: 141:89342
TITLE: Novel lopinavir analogs incorporating heterocyclic replacements of six-member cyclic urea-synthesis and structure-activity relationships
AUTHOR(S): Sham, Hing L.; Betebenner, David A.; Rosenbrook, William; Herrin, Thomas; Saldivar, Ayda; Vasavanonda, Sudthida; Plattner, Jacob J.; Norbeck, Daniel W.
CORPORATE SOURCE: Pharmaceutical Discovery, Abbott Laboratories, Abbott Park, IL, 60064-6101, USA
SOURCE: Bioorganic & Medicinal Chemistry Letters (2004), 14(10), 2643-2645
CODEN: BMCLE8; ISSN: 0960-894X
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 141:89342
AB The HIV protease inhibitor ABT-378 (lopinavir) has a six-member cyclic urea in the P-2 position. A series of analogs in which the six-member cyclic urea is replaced by various heterocycles was synthesized via peptide coupling and the structure-activity relationships were explored.
IT **18637-83-7**
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of pseudopeptides lopinavir analogs as HIV protease inhibitors
and anti-AIDS agents and their structure-activity relationships)
RN 18637-83-7 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

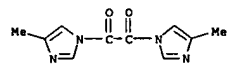
L12 ANSWER 9 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:970882 CAPLUS
DOCUMENT NUMBER: 140:177187
TITLE: Identification of Human Glutaminyl Cyclase as a Metalloenzyme: Potent inhibition by imidazole derivatives and heterocyclic chelators
AUTHOR(S): Schilling, Stephan; Niestroj, Andre J.; Rahfeld, Jens-Ulrich; Hoffmann, Torsten; Wermann, Michael; Zunkel, Katrin; Wasternack, Claus; Demuth, Hans-Ulrich
CORPORATE SOURCE: Probiodrug Aktiengesellschaft, Leibniz Institute for Plant Biochemistry, Halle/Saale, 06120, Germany
SOURCE: Journal of Biological Chemistry (2003), 278(50), 49773-49779
CODEN: JBCHA3; ISSN: 0021-9258
PUBLISHER: American Society for Biochemistry and Molecular Biology
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Human glutaminyl cyclase (QC) was identified as a metalloenzyme as suggested by the time-dependent inhibition by the heterocyclic chelators 1,10-phenanthroline and dipicolinic acid. The effect of EDTA on QC catalysis was negligible. Inactivated enzyme could be fully restored by the addition of Zn2+ in the presence of equimolar concns. of EDTA. Little reactivation was observed with Co2+ and Mn2+. Other metal ions such as K+, Ca2+, and Ni2+ were inactive under the same conditions. Addnl., imidazole and imidazole derivs. were identified as competitive inhibitors of QC. An initial structure activity-based inhibitor screening of imidazole-derived compds. revealed potent inhibition of QC by imidazole N-1 derivs. Subsequent data base screening led to the identification of two highly potent inhibitors, 3-[3-(1H-imidazol-1-yl)propyl]-2-thioxoimidazolidin-4-one and 1,4-bis-(imidazol-1-yl)-methyl-2,5-dimethylbenzene, which exhibited resp. Ki values of 810 and 295 nM. The binding properties of the imidazole derivs. were further analyzed by the pH dependence of QC inhibition. The kinetically obtained pKa values of 6.94, 6.93, and 5.60 for imidazole, methylimidazole, and benzimidazole, resp., match the values obtained by titrimetric pKa determination, indicating the requirement for an unprotonated nitrogen for binding to QC. Similarly, the pH dependence of the kinetic parameter Km for the QC-catalyzed conversion of H-Gln-7-amino-4-methylcoumarin also implies that only N-terminally unprotonated substrate mols. are bound to the active site of the enzyme, whereas turnover is not affected. The results reveal human QC as a metal-dependent transferase, suggesting that the active site-bound metal is a potential site for interaction with novel, highly potent competitive inhibitors.
IT **18637-83-7**
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(inhibitor; glutaminyl cyclase of human inhibition by imidazole derivs. and heterocyclic chelators and reactivation by zinc)
RN 18637-83-7 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

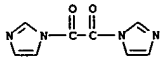
L12 ANSWER 9 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

L12 ANSWER 10 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:823852 CAPLUS
DOCUMENT NUMBER: 140:388065
TITLE: Solvent and pH effects on fast and ultrasensitive 1,1'-oxalyldi(4-methyl)imidazole chemiluminescence
AUTHOR(S): Lee, Ji Hoon; Je, Jongtae; Hur, Jin; Schlautman, Mark A.; Carraway, Elizabeth R.
CORPORATE SOURCE: Clemson Institute of Environmental Toxicology, Clemson University, Pendleton, SC, 29670, USA
SOURCE: Analyst (Cambridge, United Kingdom) (2003), 128(10), 1257-1261
CODEN: ANALAO; ISSN: 0003-2654
PUBLISHER: Royal Society of Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Solvent and pH effects on fast and ultrasensitive 1,1'-oxalyldi(4-methyl)imidazole chemiluminescence (OD4MI-CL) were studied. The influences of these two factors on the complex OD4MI-CL reaction are discussed within a conceptual prototype for developing aqueous and non-aqueous
capillary electrophoresis (ACE and NACE) devices with OD4MI-CL detection. The reaction channel length and OD4MI yield from the reaction between bis(2,4,6-trichlorophenyl) oxalate (TCPO) and 4-methylimidazole in the channel will be influenced by pH, water volume fraction, and cosolvent properties of the solution Optimum OD4MI-CL efficiency is observed at pH 6.5
when 1-propanol, which has a low dielec. constant (ε = 20.8), is used as the NACE solvent in the separation channel. Water (ε = 80.1), the solvent in the ACE separation channel, acts similarly to a high dielec. constant organic solvent in NACE because the disadvantages normally associated
with TCPO-CL reactions in water disappear due to the faster OD4MI-CL reaction vs. OD4MI decomposition in aqueous solution Therefore, it is expected that
the OD4MI-CL detection system can be used in both NACE and ACE devices without requiring detector modifications. We also conclude that OD4MI-CL detection in NACE and ACE devices will be much more sensitive than the TCPO-CL detection used in current NACE devices.
IT **685880-49-3**
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(solvent and pH effects on fast and ultrasensitive 1,1'-oxalyldi(4-methyl)imidazole chemiluminescence)
RN 685880-49-3 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis[4-methyl- (9CI) (CA INDEX NAME)

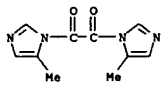


REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 11 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:22228 CAPLUS
DOCUMENT NUMBER: 138:296792
TITLE: Fast peroxyoxalate chemiluminescence for minimized analytical separation systems
AUTHOR(S): Lee, Ji Hoon; Je, Jongtae; Schlautman, Mark A.; Carraway, Elizabeth R.
CORPORATE SOURCE: Department of Environmental Toxicology and the Clemson Institute of Environmental Toxicology, Clemson University, Pendleton, SC, 29670, USA
SOURCE: Chemical Communications (Cambridge, United Kingdom) (2003), (2), 270-271
CODEN: CHCOFS; ISSN: 1359-7345
PUBLISHER: Royal Society of Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The maximum intensity, Imax, and time required to reach the maximum emission, tmax, for 1-aminopyrene monitored in 1,1'-oxalyldi-4-methylimidazole (OD4MI) chemiluminescence (CL) reactions are .apprx.61 times higher and 16 times faster than their resp. values for bis(2,4,6-trichlorophenyl)oxalate (TCPO) CL reactions in the presence of imidazole (ImH).
IT **18637-83-7**, 1,1'-Oxalyldiimidazole **505093-68-5** **505093-69-6**
RL: ARG (Analytical reagent use); PRP (Properties); ANST (Analytical study); USES (Uses)
(fast peroxyoxalate chemiluminescence for minimized anal. separation systems)
RN 18637-83-7 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)

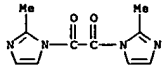


RN 505093-68-5 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis[5-methyl- (9CI) (CA INDEX NAME)



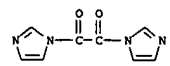
RN 505093-69-6 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis[2-methyl- (9CI) (CA INDEX NAME)

L12 ANSWER 11 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)



REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 12 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:226626 CAPLUS
DOCUMENT NUMBER: 137:154626
TITLE: Study of the characteristics of three high-energy intermediates generated in peroxyoxalate chemiluminescence (PO-CL) reactions
AUTHOR(S): Lee, Ji Hoon; Rock, James C.; Park, Seung Bum; Schlautman, Mark A.; Carraway, Elizabeth R.
CORPORATE SOURCE: Occupational Health & Safety Institute, Texas A&M University, College Station, TX, 77843-3133, USA
SOURCE: Journal of the Chemical Society, Perkin Transactions 2 (2002), (4), 802-809
CODEN: JCSPGI; ISSN: 1472-779X
PUBLISHER: Royal Society of Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Perylene emission intensity generated from peroxyoxalate chemiluminescence (PO-CL) reactions was studied as a function of time and order of reagent addition Based on 1H-NMR analyses, kinetics of UV absorbance and emission intensity vs. time profiles, we conclude that PO-CL reactions in the presence of imidazole (ImH) can proceed by three distinct reaction pathways depending on how the reagents are mixed together. When bis(2,4,6-trichlorophenyl) oxalate (TCPO) is mixed simultaneously with H2O2, ImH and perylene, a slowly decaying emission curve is generated from the interaction between perylene and a high-energy intermediate (i.e., six- or eight-membered cyclic compound) formed by the ImH-catalyzed nucleophilic reaction (TCPO-CL reaction). Upon mixing TCPO simultaneously with ImH and perylene in the absence of H2O2, however, distinctly different CL curves of lower intensity are generated from the interaction between perylene and a new, unknown high-energy intermediate formed from the reaction between the aryl oxalate and ImH. Finally, using 1H-NMR, we observed that 1,1'-oxalyldiimidazole (ODI) is also formed from the reaction between TCPO and ImH. When ODI reacts with excess H2O2 in the presence of perylene, a higher intensity and relatively fast decaying emission curve is generated (ODI-CL reaction) from the interaction between perylene and the high-energy intermediate produced, which we propose is imidazolylhydroxydioxetanone or 1,2-dioxetanedione.
IT **18637-83-7**, 1,1'-Oxalyldiimidazole
RL: FMU (Formation, unclassified); RCT (Reactant); FORM (Formation, nonpreparative); RACT (Reactant or reagent)
(intermediate; high-energy intermediates generated in peroxyoxalate chemiluminescence (PO-CL) reactions)
RN 18637-83-7 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)

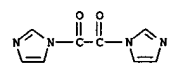


REFERENCE COUNT: 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 13 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:895548 CAPLUS
DOCUMENT NUMBER: 136:38973
TITLE: Phase-change inks containing benzoyl benzamides
INVENTOR(S): Malhotra, Shadi L.; Goodbrand, H. Bruce
PATENT ASSIGNEE(S): Xerox Corporation, USA
SOURCE: U.S., 14 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6328793	B1	20011211	US 2000-632190	20000803
PRIORITY APPLN. INFO.:			US 2000-632190	20000803

OTHER SOURCE(S): MARPAT 136:38973
AB Disclosed is an ink composition comprising (a) a benzoyl benzamide compound; (b) a viscosity-modifying benzoyl-group-containing compound; (c) a colorant; and (d) an optional conductivity enhancing agent.
IT **18637-83-7**, 1,1'-Oxalyldiimidazole
RL: MOA (Modifier or additive use); USES (Uses)
(conductivity-enhancing agent; phase-change inks containing benzoyl benzamides)
RN 18637-83-7 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)

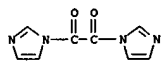


REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 14 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:680328 CAPLUS
DOCUMENT NUMBER: 135:371710
TITLE: Solid-Phase Synthesis of Substituted Imidazoline-Tethered 2,3-Diketopiperazines, Cyclic Ureas, and Cyclic Thioureas
AUTHOR(S): Acharya, Achyuta N.; Ostresh, John M.; Houghten, Richard A.
CORPORATE SOURCE: Torrey Pines Institute for Molecular Studies, San Diego, CA, 92121, USA
SOURCE: Journal of Combinatorial Chemistry (2001), 3(6), 612-623
CODEN: JCCHFF; ISSN: 1520-4766
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 135:371710

AB Efficient methods for the solid-phase synthesis of imidazoline-tethered 2,3-diketopiperazines, cyclic ureas, and cyclic thioureas are described. Following the exhaustive reduction of resin-bound dipeptides derived from orthogonally protected diamino acids, the primary amine of the resulting tetraamines was selectively protected with Dde. The compds. were then selectively cyclized via their secondary amines with three different diimidazole derivs. ((COIm)2, COIm2, CSIm2). Upon Dde removal, the compds. were selectively N-acylated and dehydratively cyclized with POCl3 to afford the imidazoline-tethered analogs in moderate yield and high purity. These procedures have been extended to prepare mixture-based combinatorial libraries. Details of the selection of building blocks for preparation of the positional scanning libraries based on the "libraries from libraries" approach are discussed.

IT **18637-83-7**
RL: RCT (Reactant); RACT (Reactant or reagent)
(solid-phase synthesis of substituted imidazoline-tethered 2,3-diketopiperazines, cyclic ureas, and cyclic thioureas)
RN 18637-83-7 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)

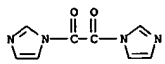


REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 15 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2000:513460 CAPLUS
DOCUMENT NUMBER: 133:317215
TITLE: Carbonyl J Derivatives: A New Class of HIV-1 Integrase Inhibitors
AUTHOR(S): Maurer, Karl; Tang, Ann H.; Kenyon, George L.; Leavitt, Andrew D.
CORPORATE SOURCE: Department of Laboratory Medicine, University of California, San Francisco, CA, USA
SOURCE: Bioorganic Chemistry (2000), 28(3), 140-155
CODEN: BOCMBM; ISSN: 0045-2068
PUBLISHER: Academic Press
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 133:317215

AB Integration of a DNA copy of the HIV-1 genome is required for viral replication and pathogenicity, and this highly specific mol. process is mediated by the virus-encoded integrase protein. The requirement for integration, combined with the lack of a known analogous process in mammalian cells, makes integrase an attractive target for therapeutic inhibitors of HIV-1 replication. While many reports of HIV-1 IN inhibitors exist, no such compds. have yet emerged to treat HIV-1 infection. As such, new classes of integrase inhibitors are needed. We have combined mol. modeling and combinatorial chemical to identify and develop a new class of HIV-1 integrase inhibitors, the Carbonyl J [N,N'-bis-2-(5-hydroxy-7-naphthalenesulfonic acid)urea] derivs. This new class includes a number of compds. with sub-micromolar IC50 values for inhibiting purified HIV-1 integrase in vitro. Herein we describe the chemical characteristics that are important for integrase inhibition and cell toxicity within the Carbonyl J derivs. (c) 2000 Academic Press.

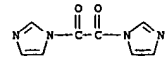
IT **18637-83-7**
RL: RCT (Reactant); RACT (Reactant or reagent)
(carbonyl J derivs.: a new class of HIV-1 integrase inhibitors)
RN 18637-83-7 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)



L12 ANSWER 16 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2000:373661 CAPLUS
DOCUMENT NUMBER: 133:150895
TITLE: Solid-phase synthesis of substituted 2,3-diketopiperazines from reduced polyamides
AUTHOR(S): Nefzi, Adel; Giulianotti, Marc A.; Houghten, Richard A.
CORPORATE SOURCE: Torrey Pines Institute for Molecular Studies, San Diego, CA, 92121, USA
SOURCE: Tetrahedron (2000), 56(21), 3319-3326
CODEN: TETRAB; ISSN: 0040-4020
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 133:150895

AB An efficient method for the solid phase synthesis of 1,6-disubstituted 2,3-diketopiperazine and 1,4,5-trisubstituted 2,3-diketopiperazine derivs. is described. The reduction of resin-bound acylated amino acids or resin-bound acylated dipeptides, followed by treatment with oxalyldiimidazole, affords the corresponding diketopiperazines in good yield and high purity. This is an example of a broader approach to the solid phase synthesis of individual heterocyclic compds. using peptides directly or indirectly as starting materials.

IT **18637-83-7**
RL: RCT (Reactant); RACT (Reactant or reagent)
(solid-phase synthesis of substituted 2,3-diketopiperazines from reduced polyamides)
RN 18637-83-7 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)



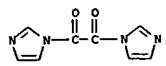
REFERENCE COUNT: 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 17 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2000:233318 CAPLUS
DOCUMENT NUMBER: 132:334196
TITLE: Kinetics of Two Pathways in Peroxyoxalate Chemiluminescence
AUTHOR(S): Hadd, Andrew G.; Seeber, Anke; Birks, John W.
CORPORATE SOURCE: Department of Chemistry and Biochemistry and Cooperative Institute for Research in Environmental Sciences (CIRES), University of Colorado, Boulder, CO, 80309, USA
SOURCE: Journal of Organic Chemistry (2000), 65(9), 2675-2683
CODEN: JOCEAH; ISSN: 0022-3263
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB It has been shown that 1,1'-oxalyldiimidazole (ODI) is formed as an intermediate in the imidazole-catalyzed reaction of oxalate esters with hydrogen peroxide. Therefore, the kinetics of the chemiluminescence reaction of 1,1'-oxalyldiimidazole (ODI) with hydrogen peroxide in the presence of a fluorophore was investigated in order to further elucidate the mechanism of the peroxyoxalate chemiluminescence reaction. The effects of concns. of ODI, hydrogen peroxide, imidazole (ImH), the general-base catalysts lutidine and collidine, and temperature on the chemiluminescence profile and relative quantum efficiency in the solvent acetonitrile were determined using the stopped-flow technique. Pseudo-first-order rate constant measurements were made for concns. of either H2O2 or ODI in large excess. All of the reaction kinetics are consistent with a mechanism in which the reaction is initiated by a base-catalyzed substitution of hydrogen peroxide for imidazole in ODI to form an imidazoyl peracid [Im(CO)2OOH]. In the presence of a large excess of H2O2, this intermediate rapidly decays with both a zero- and first-order dependence on the H2O2 concentration It is proposed that the zero-order process reflects a cyclization of this intermediate to form a species capable of exciting a fluorophore via the "chemical initiated electron exchange mechanism" (CIEEL), while the first-order process results from the substitution of an addnl. mol. of hydrogen peroxide to the imidazoyl percid to form dihydroperoxyoxalate, reducing the observed quantum yield. Under conditions of a large excess of ODI, the reaction is more than 1 order of magnitude more efficient at producing light, and the quantum yield increases linearly with increasing ODI concentration Again, it is proposed that the slow initiating step of the reaction involves the substitution of H2O2 for imidazole to form the imidazoyl peracid. This intermediate may decay by either cyclization or by reaction with another ODI mol. to form a cyclic peroxide that is much more efficient at energy transfer with the fluorophore. The reaction kinetics clearly distinguishes two sep. pathways for the chemiluminescent reaction.

IT **18637-83-7**, 1,1'-Oxalyldiimidazole
RL: PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(kinetics and mechanism of imidazole-catalyzed chemiluminescent reaction of 1,1'-oxalyldiimidazole with hydrogen peroxide and elucidation of peroxyoxalate chemiluminescence mechanism)
RN 18637-83-7 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)

L12 ANSWER 17 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)



REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 18 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:439321 CAPLUS
DOCUMENT NUMBER: 131:87927
TITLE: Preparation of 5-aminoalkoxy-1,4-dihydroquinoxaline-2, 3-diones
INVENTOR(S): Nelson, James Albert; Shah, Uresh Shantilal; Newshaw, Richard Eric
PATENT ASSIGNEE(S): American Home Products Corporation, USA
SOURCE: U.S., 6 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5922715	A	19990713	US 1998-25018	19980217
PRIORITY APPLN. INFO.:			US 1997-38683P P	19970218
OTHER SOURCE(S):	MARPAT 131:87927			

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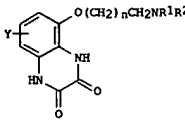
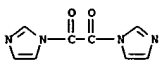


I

AB Title compds. I; [R1, R2 = H, alkyl, (CH2)mAr; Ar = (substituted) Ph, naphthyl, thienyl; NR1R2 = 1,2,3,4-tetrahydroquinolin-1-yl, 1,2,3,4-tetrahydroisoquinoline-2-yl; m = 1-5; n = 1, 2; Y = H, alkyl, alkoxy], were prepared as dopamine D2 agonists useful in the treatment of psychoses and Parkinson's disease. Thus, N-benzyl-N-[2-(2,3-dioxo-1,2,3,4-tetrahydroquinoxalin-5-yloxy)ethyl]-2,2,2-trifluoroacetate (preparation given)
was refluxed with K2CO3 in MeOH/H2O to give 5-(2-benzylaminoethoxy)-1,4-dihydroquinoxaline-2,3-dione. The latter displaced 3H-quinpirole from the dopamine autoreceptor with IC50 = 20.8 nM.

IT **18637-83-7**
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of 5-aminoalkoxy-1,4-dihydroquinoxaline-2, 3-diones)

RN 18637-83-7 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 19 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:375783 CAPLUS
DOCUMENT NUMBER: 131:47161
TITLE: Redox and electrically conducting polyquinoid and related polymers for use as cathode materials in electrochemical generators, especially lithium batteries
INVENTOR(S): Armand, Michel; Michot, Christophe; Ravet, Nathalie
PATENT ASSIGNEE(S): Acep Inc., Can.; Centre National de la Recherche Scientifique (CNRS); Universite de Montreal
SOURCE: PCT Int. Appl., 37 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9928984	A1	19990610	WO 1998-CA1125	19981202
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2223562	AA	19990602	CA 1997-2223562	19971202
CA 2279396	AA	19990610	CA 1998-2279396	19981202
AU 9914779	A1	19990616	AU 1999-14779	19981202
EP 966769	A1	19991229	EP 1998-958756	19981202
EP 966769	B1	20040317		
R: DE, FR, GB, IT				
JP 2001512526	T2	20010821	JP 1999-529560	19981202
US 6743877	B1	20040601	US 1999-361962	19990728
US 2003118877	A1	20030626	US 2002-288575	20021106
US 2004202930	A1	20041014	US 2004-823630	20040414
PRIORITY APPLN. INFO.:			CA 1997-2223562 A	19971202
			WO 1998-CA1125 W	19981202
			US 1999-361962 A3	19990728
			US 2002-288575 B1	20021106

AB Redox compns., composed of redox polymers and conducting polymers, having at least one oxidation state, for use as electrode materials, especially for lithium batteries, are of general structure [R2-(C(=X))p-q-R1-[Z]q-R3-]n . 2p M+, in which: (1) M+ is an alkali metal, alkaline earth metal, transition metal, or rare earth metal cation, organometallic cation, an organic cation, a repeating unit of an oxidized conjugated cationic polymer, or a cation formed from monomeric or polymeric units (e.g., with addnl. redox character), (2) X = O, NCN, or C(CN)2, (3) Z = CY- or N- (Y = O, S, NCN, C(CN)2; and Y =S≥4 when X = O), (3) R = absent, O, S, NH2, -(C.tplbond.C)r, -(W=W)r (W = CR6or N; r = 1-12; R6 = H, halogen, CN, C1-12-alkyl, C2-12-alkenyl, or C6-14-aryl, possibly substituted by oxa, aza, or thia); (4) R2 and R3 are absent or a divalent hydrocarbyl, optionally substituted by aza, oxa, or thia; and (5) q = 0-p; p = 1-5; n = 1-104. The novel electrode materials are especially derived from polyquinoid
ionic compds. Suitable compds. include rhodizonic acid salts; 1,2,4,5,6,8-hexahydroxyanthraquinone salts; ellagic acid salts; thiocyanic acid polymers or poly(1-cyano-2-mercaptoacetylene); polymers containing the units derived from ketopyridines; an alternating polymer containing

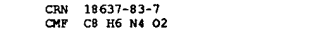
L12 ANSWER 19 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)
benzoquinone and pyrazine units; dithiosquaric acid salts; 1,5-dihydropyrimido(5,4d)pyrimidine-2,4,6,8(3H,7H)-tetrone acid salts; a dicarboxylic acid salt in which the groups are linked by conjugated bonds; and polyamides derived from a dicarboxylic acid in which the groups are linked by conjugated bonds. The polymers can be partially reduced.

IT **227322-18-1DP**, reduced **227322-18-1P 227322-20-5P**
RL: DEV (Device component use); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(cathodes; redox and elec. conducting polyquinoid and related polymers for use as cathode materials in lithium batteries)

RN 227322-18-1 CAPLUS
CN Ethanamine, 2,2'-[1,2-ethanediylbis(oxy)]bis[N-methyl-, polymer with 1,1'-(1,2-dioxo-1,2-ethanediyl)bis[1H-imidazole] (9CI) (CA INDEX NAME)

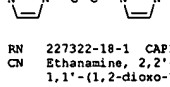
CM 1

CRN 22366-98-9
CMF C8 H20 N2 O2



CM 2

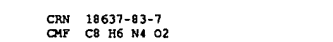
CRN 18637-83-7
CMF C8 H6 N4 O2



RN 227322-18-1 CAPLUS
CN Ethanamine, 2,2'-[1,2-ethanediylbis(oxy)]bis[N-methyl-, polymer with 1,1'-(1,2-dioxo-1,2-ethanediyl)bis[1H-imidazole] (9CI) (CA INDEX NAME)

CM 1

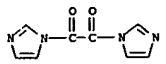
CRN 22366-98-9
CMF C8 H20 N2 O2



CM 2

CRN 18637-83-7
CMF C8 H6 N4 O2

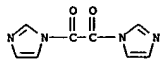
L12 ANSWER 19 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)



RN 227322-20-5 CAPLUS
CN Ethanamine, 2,2'-oxybis[N-methyl-, polymer with 1,1'-(1,2-dioxo-1,2-ethanediyl)bis[1H-imidazole] (9CI) (CA INDEX NAME)

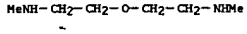
CM 1

CRN 18637-83-7
CMF C8 H6 N4 O2



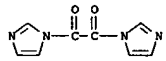
CM 2

CRN 2620-27-1
CMF C6 H16 N2 O



REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 20 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1998:678087 CAPLUS
DOCUMENT NUMBER: 130:49334
TITLE: Determination of C-21 Ketosteroids in Serum Using Trifluoromethanesulfonic Acid Catalyzed Precolumn Dansylation and 1,1'-Oxalyldiimidazole Postcolumn Peroxyoxalate Chemiluminescence Detection
AUTHOR(S): Appelblad, Patrik; Jonsson, Tobias; Baeckstroem, Torbjoern; Irgum, Knut
CORPORATE SOURCE: Department of Analytical Chemistry, Ume University, Ume, S-901 87, Swed.
SOURCE: Analytical Chemistry (1998), 70(23), 5002-5009
CODEN: ANCHAM; ISSN: 0003-2700
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A new procedure for the quantitation of C-21 ketosteroids using trifluoromethanesulfonic acid-catalyzed precolumn dansylation and coupled column liquid chromatog. separation, followed by postcolumn 1,1'-oxalyldiimidazole peroxyoxalate chemiluminescence detection is presented. In the simultaneous optimization of chromatog. resolution and chemiluminescence intensity, a coupled column chromatog. system and a stopped-flow system were used. An eluent containing 20 mM phosphate buffer at pH 6.7 accomplished an efficient separation of 3α-hydroxy-5β-pregnan-20-one from a mixture containing 10 C-21 ketosteroids. Phosphate buffer also proved to be the most advantageous, among the six buffers tested, for sensitive detection. Exptl. design and multivariate data anal. were used to characterize and optimize the postcolumn reaction chemical in the chromatog. system. A valid full factorial design with excellent predictability showed that the flow rates for both 1,1'-oxalyldiimidazole and hydrogen peroxide were the factors most strongly affecting the sensitivity of the system. The theor. plate nos. were above 11,000 for all 10 dansylated ketosteroids. The 3σ detection limit estimated from 3α-hydroxy-5β-pregnan-20-one calibration curve data was 1.6 pmol (n = 4, 125 μL injected) and spiked serum containing 0-74 pmol of this compound showed overall recoveries of 73±9% (n = 12). Quantitation of 3α-hydroxy-5β-pregnan-20-one was finally carried out on 45 serum samples and the results compared to those from a RIA method. The data acquired with the procedure described in this work compare well with the results from RIA, which confirms the reliability of the new anal. procedure.
IT 18637-83-7, 1,1'-Oxalyldiimidazole
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(determination of C-21 ketosteroids in serum using trifluoromethanesulfonic acid catalyzed precolumn dansylation and 1,1'-oxalyldiimidazole postcolumn peroxyoxalate chemiluminescence detection)
RN 18637-83-7 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)

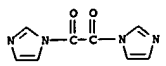


REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 20 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

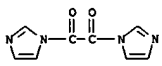
L12 ANSWER 21 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1998:269556 CAPLUS
DOCUMENT NUMBER: 128:294489
TITLE: Stopped-flow kinetics investigation of the imidazole-catalyzed peroxyoxalate chemiluminescence reaction
AUTHOR(S): Hadd, Andrew G.; Robinson, Alex L.; Rowle, Kathy L.; Birks, John W.
CORPORATE SOURCE: Department of Chemistry and Biochemistry and Cooperative Institute for Research in Environmental Sciences (CIRES), University of Colorado, Boulder, CO, 80309-0216, USA
SOURCE: Journal of Organic Chemistry (1998), 63(9), 3023-3031
CODEN: JOCEAH; ISSN: 0022-3263
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The stopped-flow technique was used to study the temperature-dependent kinetics of the imidazole-catalyzed peroxyoxalate chemiluminescence reaction in order to further elucidate its mechanism. Pseudo-1st-order rate consts. were obtained from the chemiluminescence intensity-vs.-time profiles for the sequential reaction model X → Y → Z over a wide range of initial concns. of each of the following reagents: bis(2,4,6-trichlorophenyl) oxalate (TCPO), imidazole (ImH) and H2O2. These measurements were complemented by UV-absorbance measurements of the kinetics of the step X → Y. For both reaction conditions pseudo-1st-order in TCPO ([ImH], [H2O2] » [TCPO]) and pseudo-1st-order in H2O2 ([ImH] » [TCPO] » [H2O2]), the 1st step of the reaction is nucleophilic substitution by 2 ImH mols. to form 1,1'-oxalyldiimidazole (ODI). Under conditions of excess TCPO in the concentration range 0.075-0.25 mM, the Y → Z reaction probed the subsequent reaction of ODI with H2O2 to form the imidazoyl peracid intermediate, ImCOCO2OH (I). For excess H2O2 concns. in the range 2.5-15 mM, the reaction of H2O2 with ODI is fast, and the Y → Z step of the sequential reaction model describes subsequent reactions of I. An important unexpected finding necessary for interpreting the kinetics of this reaction is that under conditions of a large excess of H2O2 the faster rise of the chemiluminescence signal corresponds to the 2nd step of the reaction (Y → Z), and the slower fall of the signal corresponds to the 1st step (X → Y). Lutidine and collidine, amine bases of similar aqueous pKa as ImH, displayed very little catalytic effect on the peroxyoxalate-chemiluminescence reaction in comparison to ImH, corroborating the conclusion that nucleophilic catalysis with formation of ODI as an intermediate constitutes the principal reaction pathway under conditions of both excess oxalate ester and excess H2O2. ImH quenches the quantum yield of the reaction, a result that can be well explained by catalysis of the decomposition of the key energy-transfer intermediate.
IT 18637-83-7, 1,1'-Oxalyldiimidazole
RL: FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); FORM (Formation, nonpreparative); PROC (Process); RACT (Reactant or reagent)
(stopped-flow kinetics study of imidazole-catalyzed peroxyoxalate chemiluminescence reaction)
RN 18637-83-7 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)

L12 ANSWER 21 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)



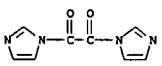
REFERENCE COUNT: 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 22 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1998:159844 CAPLUS
DOCUMENT NUMBER: 128:294483
TITLE: A two-intermediate model for imidazole-promoted peroxyoxalate chemiluminescence
AUTHOR(S): Neuvonen, Helmi
CORPORATE SOURCE: Department of Chemistry, University of Turku, Turku, FIN-20013, Finland
SOURCE: Journal of Bioluminescence and Chemiluminescence (1997), 12(5), 241-248
CODEN: JBCHE7; ISSN: 0884-3996
PUBLISHER: John Wiley & Sons Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A mechanism is proposed for imidazole-catalyzed peroxyoxalate chemiluminescence. The reaction model includes a sequential formation of 1-aroxalylimidazole and 1,1'-oxalyldiimidazole as light-producing reaction intermediates. The suggestion is supported by the kinetic data obtained for the reaction of imidazole with bis(4-nitrophenyl) oxalate and on the recently reported ability of 1,1'-oxalyldiimidazole to function as an efficient chemiluminescence reagent. The relative contributions of different catalytic pathways and hydrolytic side-reactions are discussed.
IT **18637-83-7**, 1,1'-Oxalyldiimidazole
RL: FMU (Formation, unclassified); RCT (Reactant); FORM (Formation, nonpreparative); RACT (Reactant or reagent)
(two-intermediate model for imidazole-promoted peroxyoxalate chemiluminescence)
RN 18637-83-7 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 23 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1997:811700 CAPLUS
DOCUMENT NUMBER: 128:112462
TITLE: Peroxyoxalate chemiluminescence in aqueous solutions: coupling of immobilized enzyme reactors and 1,1'-oxalyldiimidazole chemiluminescence reaction to flow-injection analysis and liquid chromatographic systems
AUTHOR(S): Emteborg, Malin; Irgum, Knut; Gooijer, Cees; Brinkman, Udo A. Th.
CORPORATE SOURCE: Department of Analytical Chemistry, Umea University, S-901 87 Umea, Swed.
SOURCE: Analytica Chimica Acta (1997), 357(1-2), 111-118
CODEN: ACACAM; ISSN: 0003-2670
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A highly sensitive method for the determination of enzymically generated hydrogen peroxide in flow-injection anal. (FIA) and liquid chromatog. (LC) has been developed. A dual-line flow system is used, one carrier (or eluent) delivering the analyte and the other one the chemiluminescent reagent 1,1'-oxalyldiimidazole (ODI). The results show that the composition of the analyte flow line is not critical for the chemiluminescence detection step; even purely aqueous buffers, as generally applied if immobilized enzyme reactors (IMERs) are involved in FIA and LC, can be used without loss of sensitivity. IMERs containing either glucose oxidase or acetylcholine esterase/choline oxidase were incorporated in this flow line and favorable detection limits (S/N = 3) were obtained, i.e. 3 nM for glucose and 50 nM for acetylcholine and choline. The performance of the approach in real-sample anal. was tested by determining glucose and choline in urine samples.
IT **18637-83-7**, 1,1'-Oxalyldiimidazole
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(peroxyoxalate chemiluminescence in aqueous solns. and flow-injection anal.)
RN 18637-83-7 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)

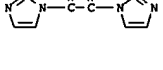


REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 24 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1997:761862 CAPLUS
DOCUMENT NUMBER: 128:55448
TITLE: Photothermographic material
INVENTOR(S): Yamada, Kozaburoh; Kubo, Toshiaki; Hirano, Shigeo
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Eur. Pat. Appl., 102 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
EP 807850	A1	19971119	EP 1997-108057		19970516
EP 807850	B1	20001004			
R: DE, FR, GB					
JP 09304870	A2	19971128	JP 1996-148111		19960517
JP 09304871	A2	19971128	JP 1996-148115		19960517
JP 09304872	A2	19971128	JP 1996-148116		19960517
JP 10031282	A2	19980203	JP 1996-280356		19960930
US 6306574	B1	20011023	US 1997-857459		19970516
PRIORITY APPLN. INFO.:			JP 1996-148111	A	19960517
			JP 1996-148113	A	19960517
			JP 1996-148115	A	19960517
			JP 1996-148116	A	19960517
			JP 1996-280356	A	19960930

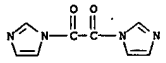
OTHER SOURCE(S): MARPAT 128:55448
AB In a photothermog. material comprising an organic silver salt, a silver halide, and a reducing agent, a hydrazine derivative represented by the formula R1GN(A1)N(A2)R2 (R1 = alkyl, aryl, alkoxy, aryloxy, amino, alkylamino, arylamino, heterocyclyl, heterocyclylamino, or hydrazino; R2 = an aliphatic group; G = COCO, SO2, SO, P(O)(R3), thiocarbonyl, or iminomethylene; R3 = a group similar to R1; A1, A2 = H, acyl, alkylsulfonyl, or arylsulfonyl) is used as a nucleating agent. The material has high sensitivity, high Dmax and good image quality.
IT **18637-83-7P**
RL: RCT (Reactant); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(preparation and reaction in preparing hydrazine derivative nucleating agent for photothermog. materials)
RN 18637-83-7 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)



L12 ANSWER 25 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1997:283785 CAPLUS
DOCUMENT NUMBER: 126:350956
TITLE: Influence of Imidazole and Bis(trichlorophenyl) Oxalate in the Oxalyldiimidazole Peroxyoxalate Chemiluminescence Reaction
AUTHOR(S): Emteborg, Malin; Ponten, Einar; Irgum, Knut
CORPORATE SOURCE: Department of Analytical Chemistry, Umeaa University, Umeaa, S-901 87, Swed.
SOURCE: Analytical Chemistry (1997), 69(11), 2109-2114
CODEN: ANCHAM; ISSN: 0003-2700
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The complex role of imidazole when used as a catalyst in the bis(2,4,6-trichlorophenyl) oxalate (TCPO) peroxy oxalate chemiluminescence (PO-CL) reaction is explained by the transient formation and subsequent degradation of 1,1'-oxalyldiimidazole (ODI). When ODI was used directly as PO-CL reagent, the stability was improved by addition of TCPO as an "imidazole sponge", since ODI is rapidly decomposed in the presence of imidazole. In this way, the imidazole-catalyzed degradation of ODI was hindered efficiently. The stability of ODI was also influenced by the storage vessel material. Polymeric bottles were more suitable than glass containers. A comparison was made between the traditionally used reagent TCPO/imidazole (mixed online for formation of ODI) and the new reagent combination ODI-TCPO (premixed) with respect to sensitivity, noise, and background.

IT **18637-83-7**, 1,1'-Oxalyldiimidazole
RL: ARG (Analytical reagent use); FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); ANST (Analytical study); FORM (Formation, nonpreparative); PROC (Process); USES (Uses)
(imidazole and bis(trichlorophenyl) oxalate in oxalyldiimidazole peroxyoxalate chemiluminescence)
RN 18637-83-7 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)

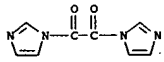


REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 26 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1996:676068 CAPLUS
DOCUMENT NUMBER: 126:26058
TITLE: Solid Phase Chemiluminescence Detection Reactors Based on in Situ Polymerized Methacrylate Materials
AUTHOR(S): Ponten, Einar; Viklund, Camilla; Irgum, Knut; Bogen, Stein Tore; Lindgren, Aasa Nson
CORPORATE SOURCE: Department of Chemistry, Umeaa University, Umeaa, S-901 87, Swed.
SOURCE: Analytical Chemistry (1996), 68(24), 4389-4396
CODEN: ANCHAM; ISSN: 0003-2700
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB In situ photopolymd. macroporous poly(glycidyl methacrylate-co-trimethylolpropane trimethacrylate) materials, which were prepared in a full factorial exptl. synthesis design, were studied as supports in solid phase chemiluminescence detection reactors. The reactors based on in situ polymerized supports showed higher light generation efficiency than packed bed reactors when evaluated in a flow system based on 1,1'-oxalyldiimidazolyl peroxyoxalate chemiluminescence detection of hydrogen peroxide, with 3-aminofluoranthene (3-AFA) as the immobilized light emitter. The results were correlated with the phys. characteristics of the materials, and the efficiency was found to correlate with the amount of accessible reactive groups. A lower functionalization d. increases the peak area sensitivity for hydrogen peroxide in the flow system. This is explained by inner filtering. The peak height sensitivities were less influenced, indicating that the total system efficiency was limited by homogeneous reaction kinetics. The introduction of a spacer to mimic pseudosolr. conditions of the bound 3-AFA moiety decreases the light generation ability.

IT **18637-83-7**, 1,1'-Oxalyldiimidazole
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(hydrogen peroxide determination by peroxyoxalate chemiluminescence using flow system based on polymer supported aminofluoranthene light emitter)
RN 18637-83-7 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)

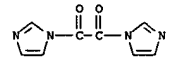


REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 27 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1996:629204 CAPLUS
DOCUMENT NUMBER: 125:264954
TITLE: Characterization of brimonidine metabolism with rat, rabbit, dog, monkey and human liver fractions and rabbit liver aldehyde oxidase
AUTHOR(S): Acheampong, A. A.; Chien, D. -S.; Lam, S.; Vekich, S.; Breau, A.; Usansky, J.; Harcourt, D.; Munk, S. A.; Nguyen, H.; et al.
CORPORATE SOURCE: Department of Pharmacokinetics, Allergan, Irvine, CA, 92713, USA
SOURCE: Xenobiotica (1996), 26(10), 1035-1055
CODEN: XENOBH; ISSN: 0049-8254
PUBLISHER: Taylor & Francis
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The in vitro metabolism of [14C]brimonidine by rat, rabbit, dog, monkey and human liver fractions was studied to assess any species differences. In vitro metabolism by rabbit liver aldehyde oxidase and human liver slices, and in vivo metabolism in rats were also investigated. The hepatic and urinary metabolites were characterized by liquid chromatog. and mass spectrometry. Up to 7, 6, 11 and 14 metabolites were detected in rat liver S9 fraction, human liver S9 fraction, human liver slices and rat urine, resp. Rabbit liver aldehyde oxidase catalyzed the metabolism of brimonidine to 2-oxobrimonidine and 3-oxobrimonidine, and further oxidation to 2,3-dioxobrimonidine. Menadione inhibited the liver aldehyde oxidase-mediated oxidation Hepatic oxidation of brimonidine to 2-oxobrimonidine, 3-oxobrimonidine, and 2,3-dioxobrimonidine was a major pathway in all the species studied, except the dog, whose prominent metabolites were 4',5'-dehydrobrimonidine and 5-bromo-6-guanidinoquinoxaline. These results indicate extensive hepatic metabolism of brimonidine and provide evidence for aldehyde oxidase involvement in brimonidine metabolism The species differences in hepatic brimonidine metabolism are likely related to the low activity of dog liver aldehyde oxidase. The principal metabolic pathways of brimonidine are α(N)-oxidation to 2,3-dioxobrimonidine, and oxidative cleavage of the imidazoline ring to give 5-bromo-6-guanidinoquinoxaline.

IT **18637-83-7**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with bromoguanidinoquinoxaline)
RN 18637-83-7 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)



L12 ANSWER 28 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1996:619043 CAPLUS
DOCUMENT NUMBER: 125:337385
TITLE: Direct and Selective Determination of Atmospheric Gaseous Hydrogen Peroxide by Diffusion Scrubber and 1,1'-Oxalyldiimidazole Chemiluminescence Detection
AUTHOR(S): Stigbrand, Malin; Karlsson, Anders; Irgum, Knut
CORPORATE SOURCE: Department of Analytical Chemistry, University of Umeaa, Umeaa, S-901 87, Swed.
SOURCE: Analytical Chemistry (1996), 68(22), 3945-3950
CODEN: ANCHAM; ISSN: 0003-2700
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB An online method is described for the determination of atmospheric H2O2, collected by a diffusion scrubber and detected in a flow system using 1,1'-oxalyldiimidazole peroxyoxalate chemiluminescence. Interferences from the organic peroxides most abundantly occurring in the atmospheric (Me hydroperoxide and hydroxymethyl hydroperoxide (HMHP)) were studied and showed that the method had a selective response for H2O2. The pH-dependent dissociation rate of HMHP to H2O2 and HCHO was estimated and could be controlled by a buffered scrubber liquid (pH 5.0) to eliminate the contribution of H2O2 from dissociated HMHP. The linearity of the response was excellent in the tested interval from the detection limit (23 pptv) to 3.37 ppbv. The time resolution was high, with an injection throughput of 120/h. The applicability of the technique was assessed by measurement of the atmospheric H2O2 concentration outside the laboratory over a period of 22 h.

IT **18637-83-7**, 1,1'-Oxalyldiimidazole
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(direct and selective determination of atmospheric gaseous hydrogen peroxide by diffusion scrubber and oxalyldiimidazole chemiluminescence detection)
RN 18637-83-7 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)

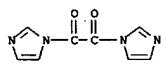
L12 ANSWER 29 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1996:367342 CAPLUS
DOCUMENT NUMBER: 125:33685
TITLE: Preparation of substituted imidazolo[1,2-a]quinoxalinone CNS agents
INVENTOR(S): Treiber, Hans-Joerg; Lubisch, Wilfried; Behl, Berthold; Hofmann, Hans Peter
PATENT ASSIGNEE(S): BASF A.-G., Germany
SOURCE: Ger. Offen., 22 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19503825	A1	19960404	DE 1995-19503825	19950206
CA 2200358	AA	19960411	CA 1995-2200358	19950919
WO 9610572	A1	19960411	WO 1995-EP3686	19950919
W: AU, BG, BR, BY, CA, CN, CZ, FI, HU, JP, KR, KZ, MX, NO, NZ, PL, RU, SG, SI, SK, UA, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU 9536506	A1	19960426	AU 1995-36506	19950919
EP 783506	A1	19970716	EP 1995-934074	19950919
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE				
CN 1159807	A	19970917	CN 1995-195396	19950919
CN 1046518	B	19991117		
BR 9509055	A	19980623	BR 1995-9055	19950919
JP 10513435	T2	19981222	JP 1995-511334	19950919
HU 73969	A2	19961028	HU 1995-2847	19950929
ZA 9508208	A	19970401	ZA 1995-8208	19950929
US 6121265	A	20000919	US 1997-809170	19970318
NO 9701424	A	19970522	NO 1997-1424	19970325
FI 9701317	A	19970327	FI 1997-1317	19970327

PRIORITY APPLN. INFO.: DE 1994-4434941 A1 19940930
DE 1995-19503825 A 19950206
WO 1995-EP3686 W 19950919

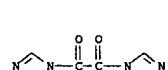
OTHER SOURCE(S): MARPAT 125:33685
GI For diagram(s), see printed CA Issue.
AB The title compds. [I; A = 5-membered heterocycle; B = direct bond, alkylene; R1 = H (un)branched alkyl, CF3, NO2, (un)substituted Ph, pyridyl, (un)substituted thienyl; R2 = H, alkyl, (dialkylamino)alkyl; R3 = Cl, Br, CF3, CN, NO2; R4, R5 = substituents], useful as antiepileptics (no data), anxiolytics (no data), and antidepressants (no data), are prepared Thus, Et 4,5-dihydro-1-methyl-8-(pyrrol-1-yl)-7-trifluoromethyl-4-oxoimidazolo[1,2-a]quinoxaline-2-carboxylate, m.p. 290-295°, was prepared in 6 steps from 2-fluoro-4-(trifluoromethyl)nitrobenzene.
IT **18637-83-7**
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of substituted imidazolo[1,2-a]quinoxalinone CNS agents)
RN 18637-83-7 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)



L12 ANSWER 29 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

L12 ANSWER 30 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1996:191992 CAPLUS
DOCUMENT NUMBER: 124:316291
TITLE: Kinetics and Mechanism of the Nucleophilic Substitution Reaction of Imidazole with Bis(2,4,6-trichlorophenyl) Oxalate and Bis(2,4-dinitrophenyl) Oxalate
AUTHOR(S): Hadd, Andrew G.; Birks, John W.
CORPORATE SOURCE: Institute for Research in Environmental Science (CIRES), University of Colorado, Boulder, CO, 80309-0216, USA
SOURCE: Journal of Organic Chemistry (1996), 61(8), 2657-63
CODEN: JOCEAH; ISSN: 0022-3263
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The kinetics of the imidazole-catalyzed decomposition of bis(2,4,6-trichlorophenyl) oxalate (TCPO) and bis(2,4-dinitrophenyl) oxalate (DNPO) was investigated by the stopped-flow technique. Pseudo-first-order rate consts. were determined as a function of imidazole concentration in the temperature range
6-45 °C by fitting the temporal changes in absorbance throughout the 245 to 345 nm wavelength range for TCPO and at 420 nm for DNPO. The reaction proceeds by release of two mols. of substituted phenol and formation of 1,1'-oxalyldiimidazole (ODI) for both esters. The identity of ODI was confirmed in the reaction of imidazole with TCPO by its UV absorbance spectrum and 13C-NMR spectrum. The reaction of imidazole with TCPO has a second-order dependence on imidazole concentration and an observed neg.
activation energy of -6.2 ± 0.3 kJ/mol, whereas the DNPO reaction has a first-order dependence on imidazole concentration and an observed pos. activation
energy of 12.0 ± 0.6 kJ/mol. The differences in the temperature dependence and order of the reaction with respect to imidazole for the two oxalate esters are explained by a shift in the rate-determining step from addition to the
acyl group for DNPO to imidazole-catalyzed release of the phenol leaving group for TCPO. These kinetics results are useful in interpreting the initial reaction steps in peroxyoxalate chemiluminescence.
IT **18637-83-7P**, 1,1'-Oxalyldiimidazole
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(kinetics and mechanism of the nucleophilic substitution reaction of imidazole with bis(trichlorophenyl) oxalate and bis(dinitrophenyl) oxalate)
RN 18637-83-7 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)



L12 ANSWER 31 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN

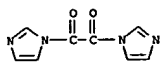
ACCESSION NUMBER: 1995:969418 CAPLUS
DOCUMENT NUMBER: 124:202946
TITLE: Preparation of sulfate esters of sugar alcohols for the treatment of arteriosclerotic changes in the vascular walls.
INVENTOR(S): Chucholowski, Alexander; Fingerle, Juergen; Iberg, Niggi; Maerki, Hans Peter; Mueller, Rita; Pech, Michael; Rouge, Marianne; Schmid, Gerard; Tschopp, Thomas; Wessel, Hans Peter
PATENT ASSIGNEE(S): F. Hoffmann-La Roche AG, Switz.
SOURCE: Eur. Pat. Appl., 42 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 663391	A1	19950719	EP 1995-100180	19950109
EP 663391	B1	19970409		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
US 5521160	A	19960528	US 1995-368519	19950104
CA 2139720	AA	19950715	CA 1995-2139720	19950106
ZA 9500086	A	19950720	ZA 1995-86	19950106
AU 9510106	A1	19950727	AU 1995-10106	19950109
AU 685196	B2	19980115		
HU 72412	A2	19960429	HU 1995-52	19950109
AT 151416	E	19970415	AT 1995-100180	19950109
ES 2101583	T3	19970701	ES 1995-100180	19950109
IL 112284	A1	19981030	IL 1995-112284	19950109
FI 9500127	A	19950715	FI 1995-127	19950111
CN 1109889	A	19951011	CN 1995-101166	19950111
CN 1043349	B	19990512		
RU 2139854	C1	19991020	RU 1995-100773	19950111
NO 9500137	A	19950717	NO 1995-137	19950113
JP 07206803	A2	19950808	JP 1995-3729	19950113
JP 2862489	B2	19990303		
PL 180273	B1	20010131	PL 1995-306797	19950113
BR 9500096	A	19951031	BR 1995-96	19951013

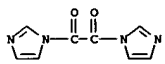
PRIORITY APPLN. INFO.: CH 1994-114 A 19940114
CH 1994-3315 A 19941107

OTHER SOURCE(S): CASREACT 124:202946; MARPAT 124:202946
AB AX(CH2)mB(CH2)pXA [A = sugar alc. residue (derivative), tris(hydroxymethyl)methyl; ≥1 of the A OH groups are esterified with H2SO4; jX = NR1CO, NHCONH, NHCSNH, NHSO2, NR1, O; m, p = 0, 1; R1 = H, alkyl, hydroxyalkyl; B = system of conjugated multiple bonds], were prepared Thus, (Z)-3-[3-biphenyl-4-yloxymethyl-5-[(Z)-3-carboxyacryloylamino]phenylcarbamoyl]acrylic acid in DMF was treated successively with 4-methylmorpholine, 2-chloro-4,6-dimethoxy-1,3,5-triazine, and D-glucamine to give (Z)-butenedioic acid (2)-[3-biphenyl-4-yloxymethyl-5-(3-D-glucit-1-ylcarbamoylacryloylamino)phenylamide]-D-glucit-1-ylamide, which was converted to (Z)-butenedioic acid (2)-[3-biphenyl-4-yloxymethyl-5-(3-(2,3,4,5,6-penta-O-sulfo-D-glucit-1-ylcarbamoyl)acryloylamino]phenylamide]-(2,3,4,5,6-penta-O-sulfo-D-glucit-1-yl)amide. The latter had 2.2 times the antiproliferative activity of heparin without showing appreciable anticoagulative activity.
IT **18637-83-7**
RL: RCT (Reactant); RACT (Reactant or reagent)

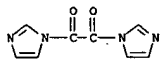
L12 ANSWER 31 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)
(prepn. of sulfate esters of sugar alcs. for the treatment of arteriosclerotic changes in the vascular walls)
RN 18637-83-7 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)



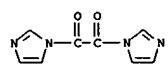
L12 ANSWER 32 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1995:570274 CAPLUS
DOCUMENT NUMBER: 123:32449
TITLE: Neutral hydrolysis and imidazole-catalyzed decomposition of bis(4-nitrophenyl) oxalate. 1,1'-Oxalyldiimidazole as an intermediate
AUTHOR(S): Neuvonen, Helmi
CORPORATE SOURCE: Dep. Chem., Univ. Turku, Turku, FIN-20500, Finland
SOURCE: Journal of the Chemical Society, Perkin Transactions 2: Physical Organic Chemistry (1995), (5), 945-9
CODEN: JCPKBH; ISSN: 0300-9580
PUBLISHER: Royal Society of Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Neutral hydrolysis and imidazole-catalyzed decomposition of a peroxyoxalate chemiluminescence reagent type compound, bis(4-nitrophenyl) oxalate (4-NPO), have been studied in acetonitrile and in acetonitrile-water mixts. For comparison, the rate coeffs. for the neutral hydrolysis of 4-nitrophenyl dichloroacetate have also been measured. The first step of the neutral hydrolysis of 4-NPO apparently proceeds by the BAC3 mechanism as evidenced by the solvent isotope effect and by the effect of the solvent composition on the rate coefficient The second step of the reaction is significantly slower than the first one, presumably owing to the retarding inductive effect of the dissociated carboxylate group. The imidazole-catalyzed degradation of 4-NPO proceeds by the successive release of the two 4-nitrophenol groups and includes the formation and decomposition of 1,1'-oxalyldiimidazole. Although the hydrolytic reactivity of 4-NPO and 4-nitrophenyl dichloroacetate are close to each other, the reactivity of imidazole toward 4-NPO is considerably higher than toward 4-nitrophenyl dichloroacetata. The difference in reactivity is possibly due to the neighboring carbonyl group stabilization of the transition state for the partitioning of an addition intermediate in the direction of substituted phenoxide ion expulsion in the reaction of 4-NPO.
IT **18637-83-7P**, 1,1'-Oxalyldiimidazole
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(intermediate in imidazole-catalyzed decomposition of bis(nitrophenyl) oxalate)
RN 18637-83-7 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)



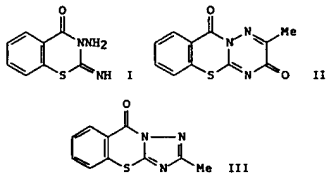
L12 ANSWER 33 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1995:296280 CAPLUS
DOCUMENT NUMBER: 122:104961
TITLE: Convenient one-pot method for formylation of amines and alcohols using formic acid and 1,1'-oxalyldiimidazole
AUTHOR(S): Kitagawa, Tokujiro; Arita, Junko; Nagahata, Atsuko
CORPORATE SOURCE: Fac. Pharm. Sci., Kobe Gakuin Univ., Kobe, 651-21, Japan
SOURCE: Chemical & Pharmaceutical Bulletin (1994), 42(8), 1655-7
CODEN: CPBTAL; ISSN: 0009-2363
PUBLISHER: Pharmaceutical Society of Japan
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 122:104961
AB 1,1'-Oxalyldiimidazole reacts with formic acid in acetonitrile at room temperature to give N-formylimidazole, which promptly undergoes aminolysis and alcoholysis to yield formamides or formates.
IT **18637-83-7**, 1,1'-Oxalyldiimidazole
RL: RCT (Reactant); RACT (Reactant or reagent)
(formylation of amines and alcs. using formic acid and oxalyldiimidazole)
RN 18637-83-7 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)



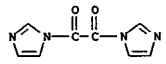
L12 ANSWER 34 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1994:252886 CAPLUS
DOCUMENT NUMBER: 120:252886
TITLE: 1,1'-Oxalyldiimidazole as Chemiluminescence Reagent in the Determination of Low Hydrogen Peroxide Concentrations by Flow Injection Analysis
AUTHOR(S): Stigbrand, Malin; Ponten, Einar; Irgum, Knut
CORPORATE SOURCE: Department of Analytical Chemistry, University of Umea, Umea, S-901 87, Swed.
SOURCE: Analytical Chemistry (1994), 66(10), 1766-70
CODEN: ANCHAM; ISSN: 0003-2700
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The reaction between 1,1'-oxalyldiimidazole (ODI) and hydrogen peroxide was studied. The flow system was simplified by the use of an immobilized fluorophore (3-aminofluoranthene) on an acrylate polymer. The chemiluminescent intensities were compared with those obtained by the reaction between trichlorophenyl oxalate (TCPO) and hydrogen peroxide (catalyzed by imidazole). The results show that ODI is about 10 times more sensitive than TCPO. When these compds. were compared in a static system, their different kinetics were quite obvious. The total amount of light produced is equal, but the ODI reaction is faster compared to the TCPO reaction. The estimated detection limit for H2O2 in water was 1 + 10-8M (0.5 pg injected).
IT **18637-83-7**, 1,1'-Oxalyldiimidazole
RL: ANST (Analytical study)
(chemiluminescence reagent, for flow injection anal. of hydrogen peroxide in water)
RN 18637-83-7 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)



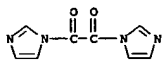
L12 ANSWER 35 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1993:603378 CAPLUS
DOCUMENT NUMBER: 119:203378
TITLE: Condensed 1,3-benzothiazinones 5. Synthesis of 2-substituted 3H,10H-[1,2,4]triazino[6,1-b]-[1,3]benzothiazine-3,10-diones
AUTHOR(S): Liu, Kang Chien; Shih, Bi Jane; Tao, Tung Mei
CORPORATE SOURCE: Inst. Pharm., Natl. Def. Med. Cent., Taipei, Taiwan
SOURCE: Zhonghua Yaoxue Zazhi (1993), 45(2), 89-94
CODEN: CYHCEX; ISSN: 1016-1015
DOCUMENT TYPE: Journal
LANGUAGE: English
GI



AB The title compds. were prepared by reaction of aminoiminodihydrobenzothiazinone I with α-oxo carboxylic esters or 1,2-dielectrophiles. Thus, I and Me pyruvate were refluxed for 8 h in AcOH to give 27% methyltriazinobenzothiazinedione II and 18% the methyltriazolobenzothiazinone III.
IT **18637-83-7**
RL: RCT (Reactant); RACT (Reactant or reagent)
(acylation by, of aminoiminodihydrobenzothiazinone)
RN 18637-83-7 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)



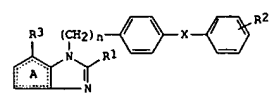
L12 ANSWER 36 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1993:603082 CAPLUS
DOCUMENT NUMBER: 119:203082
TITLE: Synthesis of symmetrical diaryl 1,2-diketones from Grignard reagents and 1,1'-oxalylimidazole
AUTHOR(S): Mitchell, Reginald H.; Iyer, Vivekanantan S.
CORPORATE SOURCE: Dep. Chem., Univ. Victoria, Victoria, BC, V8W 3P6, Can.
SOURCE: Tetrahedron Letters (1993), 34(23), 3683-6
CODEN: TELEAY; ISSN: 0040-4039
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 119:203082
AB Sym. diaryl 1,2-diketones (α-diketones) are obtained in reasonably good yields when readily accessible 1,1'-oxalylimidazole (I) is treated with two equivalent of an aryl Grignard reagent. Thus, reaction of I (prepared in situ by reaction of imidazole with ClCOCOCl) with PhMgBr in THF gave 60% PhCOCOPh.
IT **18637-83-7**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction of, with Grignard reagents, diaryl diketones by)
RN 18637-83-7 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)



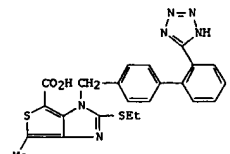
L12 ANSWER 37 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1992:531198 CAPLUS
DOCUMENT NUMBER: 117:131198
TITLE: Preparation of thienoimidazoles as angiotensin II antagonists.
INVENTOR(S): Naka, Takehiko; Inada, Yoshiyuki
PATENT ASSIGNEE(S): Takeda Chemical Industries, Ltd., Japan
SOURCE: Eur. Pat. Appl., 67 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 483683	A2	19920506	EP 1991-118234	19911025
EP 483683	A3	19920603		
EP 483683	B1	19960228		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
AU 9186707	A1	19920507	AU 1991-86707	19911022
AU 636066	B2	19930408		
AT 134633	E	19960315	AT 1991-118234	19911025
CA 2054465	AA	19920501	CA 1991-2054465	19911029
FI 9105099	A	19920501	FI 1991-5099	19911029
NO 9104236	A	19920504	NO 1991-4236	19911029
JP 05059062	A2	19930309	JP 1991-281821	19911029
JP 3099096	B2	20001016		
CN 1061973	A	19920617	CN 1991-108382	19911030
HU 62005	A2	19930329	HU 1991-3417	19911030
NO 9200009	A	19921026	NO 1992-9	19920102
US 5463073	A	19951031	US 1993-112793	19930827
PRIORITY APPLN. INFO.:			JP 1990-294655 A	19901030
			JP 1991-92081 A	19910423
			JP 1991-150643 A	19910621
			US 1991-782549 B1	19911025

OTHER SOURCE(S): MARPAT 117:131198
GI



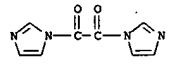
I



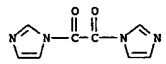
II

L12 ANSWER 37 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

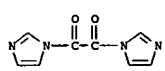
AB Title compds. [I; A = (substituted) thiophene ring; R1 = H, (substituted) hydrocarbyl which may be bonded through a heteroatom; R2, R3 = groups capable of forming anions; X = bond, spacer; n = 1,2], were prepared Thus, Me 2-ethylthio-4-methylthieno[3,4-d]imidazole-6-carboxylate (preparation given) and 4-[2'-(N-trityltetrazol-5-yl)phenyl]benzyl bromide were stirred with NaH in THF at room temp for 2 h to give a separable mixture of 1- and 3-substituted products; the former was detritylated with 1 N HCl followed by saponification with 1 N NaOH to give title compound II. II at 1 mg/kg orally showed ≥70% inhibition of angiotensin II-induced pressor response in rats. Dosage formulations were prepared containing II and other specific I.
IT **18637-83-7**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, in preparation of thienoimidazole angiotensin II antagonist)
RN 18637-83-7 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)



L12 ANSWER 38 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1991:206702 CAPLUS
DOCUMENT NUMBER: 114:206703
TITLE: An improved method for the synthesis of arylacetonitriles from 3-aryl-2-hydroxyiminopropionic acids using 1,1'-oxalyldiimidazole
AUTHOR(S): Kitagawa, Tokujiro; Kawaguchi, Megumi; Ikiuchi, Misuzu
CORPORATE SOURCE: Fac. Pharm. Sci., Kobe Gakuin Univ., Kobe, 673, Japan
SOURCE: Chemical & Pharmaceutical Bulletin (1991), 39(1), 187-9
CODEN: CPBTAL; ISSN: 0009-2363
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 114:206703
AB 1,1'-Oxalyldiimidazole is a useful reagent for the degradation of 3-aryl-2-hydroxyiminopropioic acids RCH2C(:NOH)CO2H (R = Ph, substituted Ph 1-naphthyl, 2-furyl, 2-thienyl, 3-indolyl) to the corresponding arylacetonitriles RCH2CN under essentially neutral conditions.
IT 18637-83-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(agent, for conversion of aryl (hydroxyimino)propionic acid to aryl acetonitriles)
RN 18637-83-7 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)



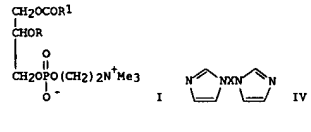
L12 ANSWER 39 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1991:42334 CAPLUS
DOCUMENT NUMBER: 114:42334
TITLE: Pigments of fungi. XV. An efficient, unambiguous route to unsymmetrically substituted dibenzyl acyloins and their use in the synthesis of fungus pigments of the pulvinone and grevillin types
AUTHOR(S): Gill, Melvyn; Kiefel, Milton J.; Lally, Deborah A.; Ten, Abilio
CORPORATE SOURCE: Dep. Org. Chem., Univ. Melbourne, Parkville, 3052, Australia
SOURCE: Australian Journal of Chemistry (1990), 43(9), 1497-518
CODEN: AJCHAS; ISSN: 0004-9425
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 114:42334
AB RCH2CH(OH)COCH2R1 [I, R, R1 = Ph, 4-MeOC6H4, 3,4-(MeO)2C6H3] including those bearing unsym. disposed aryl residues are assembled in high yield by reaction between RCH2CH(CN)OSiMe3 and benzyl Grignard reagents. I are deprotonated with LiN(CHMe2)2 to afford alcoholate enolate dianions which can be made to react with carbonyldiimidazole and with oxalyldiimidazole, resp., to ultimately afford fungus pigments of the pulvinone and grevillin types.
IT 18637-83-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(cyclization of, with hydroxydiarylbutanones)
RN 18637-83-7 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)



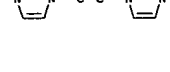
L12 ANSWER 40 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1989:95709 CAPLUS
DOCUMENT NUMBER: 110:95709
TITLE: Manufacture of pharmacologically active phospholipid derivatives
INVENTOR(S): Saigo, Takuya; Nakayama, Masaharu
PATENT ASSIGNEE(S): Nippon Oils & Fats Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 63215685	A2	19880908	JP 1987-45264	19870302
PRIORITY APPLN. INFO.:			JP 1987-45264	19870302

OTHER SOURCE(S): MARPAT 110:95709
GI



AB Pharmacol. active (no data) title derivs. I [R = CO(CH2)nCO2H; R1 = C3-21 alkyl; n = 2-20] (II) are prepared by treating I (R = H) (III) with HO2C(CH2)nCO2H in the presence of diimidazoles IV (X = CO, COCO). A suspension of III (R1 = C15H31) in DMSO was treated with azelaic acid in THF in the presence of IV (X = CO) (V) at room temperature for 4 h to give 21.1% II (R1 = C15H31, n = 7). Without V, the product was not obtained.
IT 18637-83-7, 1,1'-Oxalyldiimidazole
RL: CAT (Catalyst use); USES (Uses)
(catalyst, for acylation of lysophosphatidylcholines with dicarboxylic acids)
RN 18637-83-7 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)

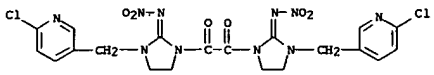


L12 ANSWER 41 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1989:8210 CAPLUS
DOCUMENT NUMBER: 110:8210
TITLE: Preparation of insecticidal 2-(nitroimino or cyanoimino)imidazolidine and -hexahydropyrimidine derivatives, process for their preparation, and their intermediates
INVENTOR(S): Shiokawa, Kozo; Tsuboi, Shinichi; Moriie, Koichi; Shibuya, Katsuhiko
PATENT ASSIGNEE(S): Nihon Tokushu Noyaku Seizo K. K., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 49 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

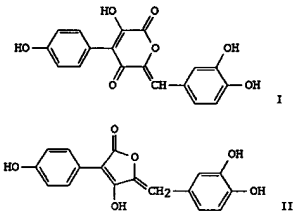
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 63156786	A2	19880629	JP 1986-301333	19861219
JP 07084461	B4	19950913		
EP 277317	A1	19880810	EP 1987-118054	19871207
EP 277317	B1	19910403		
R: BE, CH, DE, FR, GB, IT, LI, NL				
US 4880933	A	19891114	US 1987-130376	19871208
IL 84843	A1	19920621	IL 1987-84843	19871216
CA 1320202	A1	19930713	CA 1987-554583	19871217
BR 8706927	A	19880726	BR 1987-6927	19871218
HU 47085	A2	19890130	HU 1987-5872	19871218
HU 200753	B	19900828		
JP 07278140	A2	19951024	JP 1994-291932	19941102
JP 3209649	B2	20010917		
PRIORITY APPLN. INFO.:			IL 1986-77750	A 19860131
			JP 1986-301333	A 19861219

OTHER SOURCE(S): CASREACT 110:8210; MARPAT 110:8210
GI For diagram(s), see printed CA Issue.
AB The title compds. [I; R = H, alkyl; W = 5- or 6-membered heterocyclyl containing at least 1 N, O, S; Y = O2N, cyano; A = (un)substituted (CH2)2-3; Z = (un)substituted alkyl, alkenyl, alkynyl, aryl, alkoxy, alkylthio, arylthio, or cycloalkyl, cyano, CHO, aryloxy, alkenyloxy, (un)substituted heterocyclyl containing N, O, or S, (un)substituted (thio)carbamoyl, CO2R1, etc.; R1 = Q, (un)substituted heterocyclyl containing N, O, or S; T = S, S2, (CO)2, C(S), S(O)2], useful as insecticides, were prepared 60% NaH (0.4 g) was added at room temperature to a solution of 3.2 g 1-[2-(3,5-dichloropyrid-2-yloxy)ethyl]-2-nitroiminoimidazolidine in DMF and the mixture was stirred until evolution of H ceased. Then, 1.7 g 2-chloro-5-(chloromethyl)thiazole was added at room temperature and the mixture was stirred at room temperature for 1 h and at 40° for 30 min to give 2.7 g an imidazolidine derivative II. I at ≤200 ppm exhibited excellent insecticidal activity against Nephotettix cincticeps and Sogatella furcifera.
IT 117906-10-2P
RL: AGR (Agricultural use); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of, as insecticide)
RN 117906-10-2 CAPLUS
CN 2-Imidazolidinimine, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis[3-[(6-chloro-3-

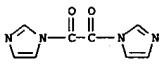
L12 ANSWER 41 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)
pyridinyl)methyl]-N-nitro- (9CI) (CA INDEX NAME)



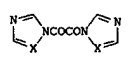
L12 ANSWER 42 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1988:530792 CAPLUS
DOCUMENT NUMBER: 109:130792
TITLE: Pigments of fungi. Part 9. Synthesis of fungus pigments of the grevillin and pulvinone types from benzylacyloins
AUTHOR(S): Gill, Melvyn; Kiefel, Milton J.
CORPORATE SOURCE: Dep. Org. Chem., Univ. Melbourne, Parkville, 3052, Australia
SOURCE: Tetrahedron Letters (1988), 29(17), 2085-8
CODEN: TELEAY; ISSN: 0040-4039
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 109:130792
GI



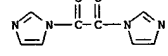
AB Grevillin-B (I) and 3',4,4'-trihydroxypulvinone (II) principal coloring materials of the mycorrhizal toadstool Suillus grevillei were synthesized in good yield starting from 3,4-(MeO)2C6H3CH2CH(OH)COCH2C6H4OMe-4 and 1,1'-oxalyl- or 1,1'-carbonylbisimidazole, resp.
IT **18637-83-7**, 1,1'-Oxaylylbisimidazole
RL: RCT (Reactant); RACT (Reactant or reagent)
(cyclocondensation of, with benzylacyloins)
RN 18637-83-7 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)



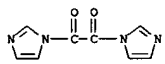
L12 ANSWER 43 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1988:185845 CAPLUS
DOCUMENT NUMBER: 108:185845
TITLE: Facile conversions of carboxylic acids into amides, esters, and thio esters using 1,1'-oxalyldiimidazole and 1,1'-oxalyldi-1,2,4-triazole
AUTHOR(S): Kitagawa, Tokujiro; Kuroda, Hiroko; Sasaki, Hideaki; Kawasaki, Koichi
CORPORATE SOURCE: Fac. Pharm. Sci., Kobe Gakuin Univ., Kobe, 673, Japan
SOURCE: Chemical & Pharmaceutical Bulletin (1987), 35(10), 4294-301
CODEN: CPBTAL; ISSN: 0009-2363
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 108:185845
GI



AB Aliphatic, aromatic, and heteroarom. carboxylic acids react with 1,1'-oxalyldiimidazole (I; X = CH) or with I (X = N) in MeCN for 40 min at 40° to give the corresponding 1-acylazole intermediates, which then undergo aminolysis and alcoholysis to form amides (including dipeptides), esters, and thio esters. Thus, 4-O2NC6H4CO2H (II) was treated with I (X = CH) in MeCN and then with PhNH2 to give 96% 4-O2NC6H4CONHPh. Similarly, treatment of II with I (X = N) and then MeOH or PhSH gave 76% 4-O2NC6H4CO2Me and 66% 4-O2NC6H4COSPh, resp.
IT **18637-83-7**
RL: RCT (Reactant); RACT (Reactant or reagent)
(promoter, for esterification and amidation of carboxylic acids)
RN 18637-83-7 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)



L12 ANSWER 44 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1987:597111 CAPLUS
DOCUMENT NUMBER: 107:197111
TITLE: A convenient one-stage synthesis of carboxylic acid anhydrides using 1,1'-oxalyldiimidazole
AUTHOR(S): Kitagawa, Tokujiro; Kuroda, Hiroko; Sasaki, Hideaki
CORPORATE SOURCE: Fac. Pharm. Sci., Kobe Gakuin Univ., Kobe, 673, Japan
SOURCE: Chemical & Pharmaceutical Bulletin (1987), 35(3), 1262-5
CODEN: CPBTAL; ISSN: 0009-2363
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 107:197111
AB Aliphatic, aromatic, and heteroarom. carboxylic acids react with 1,1'-oxalyldimidazole in acetonitrile under reflux in the presence of methanesulfonic acid to give the corresponding carboxyic acid anhydrides in 30-98% yields.
IT **18637-83-7**, 1,1'-Oxalyldiimidazole
RL: RCT (Reactant); RACT (Reactant or reagent)
(dehydration by, of acids)
RN 18637-83-7 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)



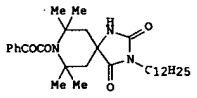
L12 ANSWER 45 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1987:460740 CAPLUS
DOCUMENT NUMBER: 107:60740
TITLE: Photolyzable sterically-hindered amides as light stabilizers
INVENTOR(S): Berner, Godwin; Slongo, Mario
PATENT ASSIGNEE(S): Ciba-Geigy A.-G., Switz.
SOURCE: Ger. Offen., 16 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3628845	A1	19870312	DE 1986-3628845	19860825
US 4785102	A	19881115	US 1986-899133	19860821
GB 2180235	A1	19870325	GB 1986-20533	19860822
GB 2180235	B2	19890809		
FR 2586678	A1	19870306	FR 1986-12122	19860827
FR 2586678	B1	19900302		
JP 62051668	A2	19870306	JP 1986-201222	19860827
US 4952620	A	19900828	US 1988-231315	19880812
US 33489	E	19901211	US 1989-411962	19890925

PRIORITY APPLN. INFO.: CH 1985-3668 A 19850827
US 1986-899133 A3 19860821

GI



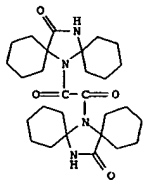
I

AB The title amides are photolyzed in situ to hindered amine stabilizers, and are therefore inert to acid catalysts for curing of resins. The amide I was prepared from PhCOCOCl and the corresponding amine in CH2Cl2 containing Et3N at -10 to 0°. A primer of polyester-cellulose ester-melamine resin topcoated with an acrylic resin-polyisocyanate composition containing 1% I, cured 45 min at 80° and exposed to Florida sunshine for 0, 6, 12, 18, and 24 mo, had 20° gloss 96, 87, 84, 78, and 73, resp.; vs. 96, 84, 81, 59, and 43, resp., without I.

IT **109422-98-2**
RL: USES (Uses)
(light stabilizers, photolyzable, for acid-curable resins)

RN 109422-98-2 CAPLUS
CN 7,14-Diazadispiro[5.1.5.2]pentadecan-15-one, 7,7'-(1,2-dioxo-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)

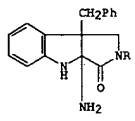
L12 ANSWER 45 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)



L12 ANSWER 46 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1987:213789 CAPLUS
DOCUMENT NUMBER: 106:213789
TITLE: Strain-barrier stabilized products from the Fischer indole synthesis. Compounds containing the 4H-imidazo[1,2-a]pyrrolo[3,4-b]indole and dipyrrolo[3,4-b:3',4'-b'][1,3]diazeto[1,2-a:3,4-a']diindole ring systems
AUTHOR(S): Southwick, Philip L.; Sullivan, Daniel S., III
CORPORATE SOURCE: Dep. Chem., Carnegie-Mellon Univ., Pittsburgh, PA, 15213, USA
SOURCE: Synthesis (1986), (9), 731-5
CODEN: SYNTBF; ISSN: 0039-7881
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 106:213789

GI



I

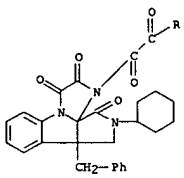
AB The angular 3a-amino groups of 3a-amino-1,3a,4,8b-tetrahydropyrrolo[3,4-b]indol-3(2H)-ones (I, R = cyclohexyl, Me) fail to undergo the expected spontaneous elimination (as ammonia) which would introduce a 3a-4 double bond. The resistance of the amino group to elimination is such that reaction with oxalyl chloride bridges that group to the 4-nitrogen to create a stable dioxoimidazole ring. Replacement of the amino group by methoxy takes place in methanolic sulfuric acid. 3A-amino-1,2,3,3a,4,8b-hexahydropyrrolo[3,4-b]indoles undergo ammonia elimination in acid solution, but yield expected 1,2,3,8b-tetrahydropyrrolo[3,4-b]indoles only as transient precursors of stable products, apparently their sym. dimers (dipyrrolo[3,4-b:3',4'-b][1,3]diazeto[1,2-a:3,4-a']diindoles).

IT **108444-10-6P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and spectra of)

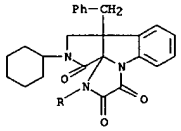
RN 108444-10-6 CAPLUS
CN 4H-Imidazo[1,2-a]pyrrolo[3,4-b]indole-3,5,6(2H)-trione, 4,4'-(1,2-dioxo-1,2-ethanediyl)bis[2-cyclohexyl-1,11b-dihydro-11b-(phenylmethyl)- (9CI) (CA INDEX NAME)

L12 ANSWER 46 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

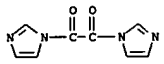
PAGE 1-A



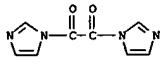
PAGE 2-A



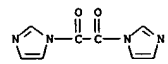
L12 ANSWER 47 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1986:533001 CAPLUS
DOCUMENT NUMBER: 105:133001
TITLE: A useful method for the conversion of aldehyde oximes into nitriles using 1,1'-oxalyldiimidazole
AUTHOR(S): Kitagawa, Tokujiro; Sasaki, Hideaki; Ono, Noriyuki
CORPORATE SOURCE: Fac. Pharm. Sci., Kobe Gakuin Univ., Kobe, 673, Japan
SOURCE: Chemical & Pharmaceutical Bulletin (1985), 33(9), 4014-14
CODEN: CPBTAL; ISSN: 0009-2363
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 105:133001
AB Under neutral conditions, aliphatic, alicyclic, aromatic, and heteroarom. aldehyde oximes RCH:NOH react with 1,1'-oxalyldiimidazole in benzene, acetonitrile, chloroform, or THF at 65-70° within 1 h to give the corresponding nitriles (RCN) in good yield.
IT **18637-83-7**
RL: RCT (Reactant); RACT (Reactant or reagent)
(dehydration by, of aldehyde oximes to nitriles)
RN 18637-83-7 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)



L12 ANSWER 48 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1985:166667 CAPLUS
DOCUMENT NUMBER: 102:166667
TITLE: A facile method for activation of carboxylic acids
AUTHOR(S): Murata, Shizuaki
CORPORATE SOURCE: Coll. Gen. Educ., Nagoya Univ., Nagoya, 464, Japan
SOURCE: Bulletin of the Chemical Society of Japan (1984), 57(12), 3597-8
CODEN: BCSJA8; ISSN: 0009-2673
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 102:166667
AB 1,1'-Oxalyldi-1,2,4-triazole, -imidazole, and -1,2,3,4-tetrazole were prepared in situ from oxalyl dichloride and corresponding 1H-azoles. The 1,1'-oxalyldi-azoles converted carboxylic acids and their salts into 1-acylazoles.
IT **18637-83-7P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction of, with carboxylic acids)
RN 18637-83-7 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)



L12 ANSWER 49 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1984:138561 CAPLUS
DOCUMENT NUMBER: 100:138561
TITLE: 1,1'-Oxalyldiimidazole, a new reagent for activation of carboxylic acid
AUTHOR(S): Murata, Shizuaki
CORPORATE SOURCE: Coll. Gen. Educ., Nagoya Univ., Furo, 464, Japan
SOURCE: Chemistry Letters (1983), (12), 1819-20
CODEN: CMLTAG; ISSN: 0366-7022
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 100:138561
AB Carboxylic acids and their salts are converted into 1-acylimidazoles by the title reagent. Treatment of the 1-acylimidazoles with alcs. gave the carboxylic esters. This reaction is applied to the esterification of fatty acids.
IT **18637-83-7P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, and activation of carboxylic acids by)
RN 18637-83-7 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)

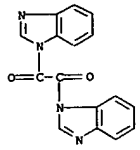


L12 ANSWER 50 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1981:1788 CAPLUS
DOCUMENT NUMBER: 94:1788
TITLE: Reagents and specific binding study methods for detecting ligands in a liquid medium
INVENTOR(S): Boguslaski, Robert Charles; Carrico, Robert Joseph
PATENT ASSIGNEE(S): Miles Laboratories, Inc., USA
SOURCE: Ger. Offen., 43 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2952498	A1	19800724	DE 1979-2952498	19791227
DE 2952498	C2	19831110		
US 4238195	A	19801209	US 1979-4580	19790118
CA 1133392	A1	19821012	CA 1979-341540	19791210
GB 2044449	A	19801015	GB 1980-86	19800102
GB 2044449	B2	19830420		
JP 55096458	A2	19800722	JP 1980-3148	19800117
JP 02010382	B4	19900307		

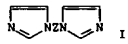
PRIORITY APPLN. INFO.: US 1979-4580 A 19790118
AB A competitive binding assay is described in which a conjugate of a fluorescent label with the ligand to be determined is used and in which the light emitted by the fluorescent label is measured after it is excited chemical by a high-energy intermediate obtained by the reaction of H2O2 with oxalyl chloride, an oxamide, or a bis(oxalate). The assay may be used for the determination of antigens, haptens, antibodies, hormones, vitamins, drugs, receptors, etc. Thus, for the determination of sisomicin (I), lissamine rhodamine B was purified chromatog. and coupled to I. The resulting conjugate was purified by column chromatog. and paper electrophoresis. Antibodies to I, the I-lissamine rhodamine B conjugate, and I then were incubated for 20 min at room temperature Carbowax 6000-PEG was added, and the precipitate was removed by centrifugation. H2O2 and bis(2,4-dinitrophenyl) oxalate were added to an aliquot of the supernate, and the light produced was measured photometrically at 579 nm. This technique can be used for homogeneous or heterogeneous binding assays.
IT **14805-57-3**
RL: RCT (Reactant); RACT (Reactant or reagent)
(in competitive-binding assays, with chemical excited fluorescent labels)
RN 14805-57-3 CAPLUS
CN 1H-Benzimidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)

L12 ANSWER 50 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)



L12 ANSWER 51 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1980:163905 CAPLUS
DOCUMENT NUMBER: 92:163905
TITLE: Reactions of azoles with inorganic acid chlorides
AUTHOR(S): Walter, Wolfgang; Radke, Matthias
CORPORATE SOURCE: Inst. Org. Chem. Biochem., Univ. Hamburg, Hamburg, D-2000/13, Fed. Rep. Ger.
SOURCE: Liebigs Annalen der Chemie (1979), (11), 1756-67
CODEN: LACHDL; ISSN: 0170-2041
DOCUMENT TYPE: Journal
LANGUAGE: German
GI

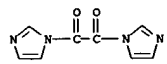


I

AB Diimidazoles I (Z = CO, CS, S, S2, SO, SO2) were prepared either by reaction of imidazole or 1-(trimethylsilyl)imidazole with ZCl2. COCl2 reacted with I (Z = CO) to give imidazole-1-carbonyl chloride. Treating N-(trimethylsilyl)azoles with ClCOSCl gave RC(O)SR (R = imidazol-1-yl, benzimidazol-1-yl, benzotriazol-1-yl), R1COR1 (R1 = imidazolyl-1-yl, 1,2,4-triazol-1-yl), or mixts. RCOSR and R1COR1 (R, R1 = benzotriazol-1-yl), depending on the azolyl group or reaction conditions. RC(O)SR (R's as above) eliminated S to give R1COR1 (R1 = R).

IT **18637-83-7P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, from oxalyl chloride and imidazole or derivative)

RN 18637-83-7 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)



L12 ANSWER 52 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN

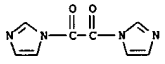
ACCESSION NUMBER: 1978:50175 CAPLUS
DOCUMENT NUMBER: 88:50175
TITLE: Chemiluminescent mixtures
PATENT ASSIGNEE(S): American Cyanamid Co., USA
SOURCE: Neth. Appl., 22 pp. Division of Neth. 66 12,653.
CODEN: NAXXAN
DOCUMENT TYPE: Patent
LANGUAGE: Dutch
FAMILY ACC. NUM. COUNT: 8
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
NL 167462	B	19810716	NL 1976-14490		19761228
NL 7614490	A	19770429			
NL 167462	C	19811216			
US 3399137	A	19680827	US 1965-485920		19650908
US 3470103	A	19690930	US 1965-489748		19650923
US 3400080	A	19680903	US 1966-520044		19660112
US 3442815	A	19690506	US 1966-520052		19660112
NL 6612653	A	19670309	NL 1966-12653		19660908
US 3804891	A	19740416	US 1971-145569		19710520
PRIORITY APPLN. INFO.:			US 1965-485920	A	19650908
			US 1965-489748	A	19650923
			US 1965-491896	A	19650930
			US 1966-547782		19660505
			NL 1966-12653		19660908
			US 1966-547761		19660505
			US 1966-520052		19660112
			US 1966-520044		19660112
			US 1965-425599	A2	19651113
			US 1968-737307	A3	19680617

AB The reaction of oxamides RCOCOR [R = 2,4-(O2N)2C6H3NH, PhSO2NPh, 4-nitrophthalimido, 1-imidazolyl, 2-oxo-1,2-dihydro-1-pyridyl] and the esters R1O2CCO2R1 [R1 = 2,4-(O2N)2C6H3, 6,2,4-Me(O2N)2C6H2, 3-F3CC6H4, C6F5] with H2O2 gave much longer-lasting chemiluminescence than the reaction of ClCOCOCl with H2O2. Thus a mixture of 3-5 mg PhSO2NPhCOCONPhSO2Ph in 5 mL MeOCH2CH2OMe with 1 mg fluorescein, 0.2 mL 50% H2O2, and 0.2 mL 10% aqueous KOH gave medium intensity chemiluminescence for 95 min, followed by weak chemiluminescence for 5.5 h. The intensity of the chemiluminescence was compared with that obtained with ClCOCOCl-H2O2.

IT **18637-83-7**
RL: PRP (Properties)
(chemiluminescence from reaction of hydrogen peroxide with)

RN 18637-83-7 CAPLUS
CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)



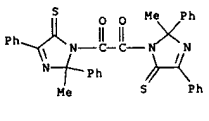
L12 ANSWER 53 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1976:74181 CAPLUS
DOCUMENT NUMBER: 84:74181
TITLE: Joint action of elemental sulfur and gaseous ammonia upon ketones. 88. Substitution products of 2H-imidazole-4(3H)-thiones and 2H-imidazol-4(3H)-ones
AUTHOR(S): Asinger, Friedrich; Saus, Alfons; Fichtner, E.; Graeber, H. J.; Leuchtenberger, W.
CORPORATE SOURCE: Inst. Tech. Chem. Petrolechem., Rheinisch-Westfael. Tech. Hochsch., Aachen, Fed. Rep. Ger.
SOURCE: Monatshefte fuer Chemie (1975), 106(6), 1449-60
CODEN: MOCMB7; ISSN: 0026-9247
DOCUMENT TYPE: Journal
LANGUAGE: German
OTHER SOURCE(S): CASREACT 84:74181
GI For diagram(s), see printed CA Issue.

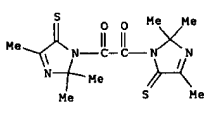
AB Na salts of 2H-imidazole-4(3H)-thiones [I; R, R1, R2 = Ph, Me, CMe3, or R1R2 = (CH2)5, R3 = H] reacted with alkyl and aryl carboxylic acid chlorides to give the corresponding 3-acyl-2H-imidazole-4(3H)-thiones (I, R3 = Bz, Ac, COEt, COPr, cyclopropylcarbonyl, etc.), with dicarboxylic acid dichlorides the N,N'-diacylbis-3-imidazoline-5-thiones II [X = (CH2)4, (CH2)8, etc.] were obtained, whereas with carbamic acid chlorides and chloroformic acid esters the corresponding ureas (I, R3 = CONMe2, CONEt2, etc.) and urethane derivs. [I, R3 = CO2Bu, CO2(CH2)4CHMeEt] were formed. Analogously 2H-imidazol-4(3H)-ones reacted with acid chlorides to the corresponding 3-acyl-2-imidazol-4(3H)-ones.

IT **58488-90-7P 58488-94-1P 58488-95-2P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 58488-90-7 CAPLUS
CN 4H-Imidazole-4-thione, 3,3'-(1,2-dioxo-1,2-ethanediyl)bis[2,3-dihydro-2-methyl-2,5-diphenyl- (9CI) (CA INDEX NAME)

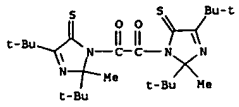


RN 58488-94-1 CAPLUS
CN 4H-Imidazole-4-thione, 3,3'-(1,2-dioxo-1,2-ethanediyl)bis[2,3-dihydro-2,2,5-trimethyl- (9CI) (CA INDEX NAME)



RN 58488-95-2 CAPLUS
CN 4H-Imidazole-4-thione, 3,3'-(1,2-dioxo-1,2-ethanediyl)bis[2,5-bis(1,1-dimethylethyl)-2,3-dihydro-2-methyl- (9CI) (CA INDEX NAME)

L12 ANSWER 53 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)



L12 ANSWER 54 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN

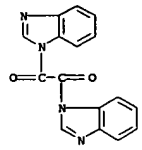
ACCESSION NUMBER: 1968:38860 CAPLUS
DOCUMENT NUMBER: 68:38860
TITLE: Chemiluminescence from reactions of electrophilic oxamides with hydrogen peroxide and fluorescent compounds
AUTHOR(S): Maulding, Donald R.; Clarke, Rose Ann; Roberts, Bernard George; Rauhut, Michael M.
CORPORATE SOURCE: American Cyanamid Co., Stamford, CT, USA
SOURCE: Journal of Organic Chemistry (1968), 33(1), 250-4
CODEN: JOCEAH; ISSN: 0022-3263
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Chemiluminescence was observed from the reactions of electrophilic oxamides with H2O2 in the presence of fluorescers. A general relationship was found between the efficiency of the light emission and the reactivity of the oxamide toward H2O2. The intensity of chemiluminescence varied substantially with the solvent, catalyst, fluorescer, and peroxide. The emitting species in the chemiluminescent reactions was the first excited singlet state of the fluorescer. 18 references.

IT **14805-57-3**
RL: PRP (Properties)
(chemiluminescence of)

RN 14805-57-3 CAPLUS

CN 1H-Benzimidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)



L12 ANSWER 55 OF 55 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1968:21847 CAPLUS
DOCUMENT NUMBER: 68:21847
TITLE: Preparation of chemiluminescent compounds
PATENT ASSIGNEE(S): American Cyanamid Co.
SOURCE: Neth. Appl., 49 pp.
CODEN: NAXXAN
DOCUMENT TYPE: Patent
LANGUAGE: Dutch
FAMILY ACC. NUM. COUNT: 8
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
NL 6612653	A	19670309	NL 1966-12653	19660908
US 3399137	A	19680827	US 1965-485920	19650908
US 3470103	A	19690930	US 1965-489748	19650923
US 3400080	A	19680903	US 1966-520044	19660112
US 3442815	A	19690506	US 1966-520052	19660112
SE 304974	B	19681014	SE 1966-12094	19660908
DE 1792774	A1	19750619	DE 1967-1792774	19660908
DE 1792774	B2	19810611		
DE 1792774	C3	19820513		
DE 1795795	A1	19750619	DE 1967-1795795	19660908
DE 1592824	B2	19810625	DE 1966-A53455	19660908
DE 1592824	C3	19820408		
US 3804891	A	19740416	US 1971-145569	19710520
NL 167462	B	19810716	NL 1976-14490	19761228
NL 7614490	A	19770429		
NL 167462	C	19811216		

PRIORITY APPLN. INFO.:

US 1965-485920	A	19650908
US 1965-489748	A	19650923
US 1965-491896	A	19650930
US 1966-520044	A	19660112
US 1966-520052	A	19660112
US 1966-547761	A	19660505
US 1966-547782	A	19660505
US 1965-425599	A2	19651113
NL 1966-12653		19660908
US 1968-737307	A3	19680617

GI For diagram(s), see printed CA Issue.

AB Chemiluminescent compns. are prepared Ph3CCO2C(O)C(O)O2CCPh3 (3 mg.) was added to 1 mg. 9,10-diphenylanthracene, 0.25 ml. H2O, and 0.5 ml. 90% aqueous H2O2 in 5 ml. 1,2-dimethoxyethane at 25°. A strong blue light was emitted during 15-20 min. Addition of KOH diminishes the chemiluminescence. Similar mixts. were prepared with diacetic oxalic anhydride; dilauric oxalic anhydride; bis(4-methoxybenzoic oxalic anhydride; 2,2',4,4'-tetranitrooxanilide; N,N'-bis(phenylsulfonyl) oxanilide; bis(4-nitrophthalyl)oxamide; bis-1-imidazolyl)glyoxal; 2,4-dinitrophenyl oxalate; bis(1,2-dihydro-2-oxo-1-pyridyl)glyoxal (I); bis(5-oxo-1,5-dihydro-1-quinolyl)glyoxal diphthalimido oxalate dimaleimido oxalate and dipiperidyl oxalate I is prepared by adding 2.2 ml. oxalyl chloride and 5.05 g. triethylamine to a stirred solution of 4.76 g. 2-hydroxypyridine in 150 ml. 1,2-dimethoxyethane. After 1 hr., the solvent is distilled off, 25 ml. CHCl3 added and distilled off, and the residue recrystd. from benzene, yielding 2.76 g. I, m. 164-74°. Also, 10 ml. 1M aqueous Na2O2 was added to 0.2 g. 9,10-diphenyl-9,10-dihydroanthracene-9,10-dicarboxylic anhydride in 10 ml. tetrahydrofuran. Blue light was emitted. Similarly, chemiluminescent mixts. were prepared with 9,10-dichlorocarbonyl-9,10-diphenyl-9,10-dihydroanthracene; and 9,10-bis(4-nitrophenyloxycarbonyl)-

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9,10-diphenyl-9,10-dihydroanthracene.

IT **18637-83-7P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 18637-83-7 CAPLUS

CN 1H-Imidazole, 1,1'-(1,2-dioxo-1,2-ethanediyl)bis- (9CI) (CA INDEX NAME)